Annotation

I am delighted to write this annotation on the occasion of the bicentenary of the founding of the Belfast Medical Society – now the Ulster Medical Society – in 1806.

Fig 1. Queen's University Lanyon Building.

Queen's University Belfast (fig 1), has had a long association with the Ulster Medical Society and its predecessor. Medical education has been a core activity of Queen's since its foundation. Indeed, the medical school in Belfast actually predates the University. Medical subjects were taught at the Belfast Academical Institution from 1810 onwards and a medical faculty was established there in 1835. In 1849 Queen's became responsible for medical teaching, at a time when medical students made up 25 per cent of the total student population. Not surprisingly, many people regarded Queen's, as someone once said, "as a medical school with a university attached".

Medical education continues to thrive at Queen's, with core programmes in Medicine, Dentistry and Biomedical Sciences, together with an emerging emphasis on interprofessional education with Nursing and Pharmacy. The School of Medicine and Dentistry recently saw the medical student intake rise from 162 to 250 a year. An expansion of some 40 new academic staff and a £40 million capital programme is in progress to underpin medically-related research and education.

Medically-related research at Queen's, embracing both biomolecular science and translational medicine, is enjoying a growing international reputation. Key areas of research strength include cancer research and cell biology, vision science, clinical population sciences, respiratory medicine, vascular medicine and dentistry.

The world-leading Centre for Cancer Research and Cell Biology (fig 2), is the only founder member of the Lombardi International Oncology Centre outside the USA. As this edition goes to press, the Wellcome Trust have announced that a consortium led by Queen's and the Royal Victoria Hospital Trust has secured funding for a new Clinical Research Facility, and Cancer Research UK have announced that Queen's has been selected for a new Experimental Cancer Medicines Centre.

The links between both the University and the Ulster Medical Society are well-established and many of the leading figures in the local medical profession have played a major role in both institutions. These include Sir William Whitla, a former President of the Society, who was Chair of Materia Medica at Queen's in the early years of the 20th century. He was a benefactor to both the University, where the Whitla Hall bears his name, and to the Society.

The founding editor of the Ulster Medical Journal in 1932 was the colourful Dr Dickie Hunter, Senior Lecturer in Embryology in the Department of Anatomy at Queen's, later Secretary of the University and sometime circus ringmaster, whose portrait – 'the man in the black hat' – hangs in the Great Hall. More recently, Society member Sir Peter Froggatt served as Vice-Chancellor of Queen's, from 1976 to 1986.

The Ulster Medical Journal is one of the few peer-reviewed journals in the world linked to a university medical school. I am particularly pleased that the Editor, Professor Patrick Morrison, has secured a competitive Wellcome Trust grant which will allow readers around the world to access the back library of the Journal on Pub Med Central. Readers will be able to peruse articles such as Alexander Fleming's first published address on penicillin outside London in 1944 when he gave the Society's Robert Campbell oration. This facility will highlight the Journal's crucial role as a source of reference and record for more than 70 years.

Queen's congratulates the Society on its bicentenary. I very much hope that the links between the University and the Society will continue to prosper in the coming years.

Professor Peter Gregson
President and Vice-Chancellor, Queen's University Belfast

Fig 2. Drawing of the CCRCB Building (currently under construction).

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Commentary

Pride or prejudice: an insight into surgical mentality

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It is a fact well known that a surgeon with no complications is a surgeon performing no operations. Assuming the majority of surgeons do operate (although with the enforcement of EWTD this may in the future need further clarification) and therefore fall into the category of surgeons *with* complications, how the individual reacts or copes with such events is an interesting subject of debate.

As with many aspects of personality trait there are two polar extremes; in terms of coping with complications they can be described as those who castigate and those who flagellate. The main difference is not the method of their self-assessment but rather the object of their infliction.

The castigators adopt the 'blame, blame, name and shame' approach. This surgeon, when faced with major and often catastrophic complications including death itself, will hurry to the scene, see the patient, scour the notes, and dig until he can justify that it wasn't his fault. It couldn't have been. He had only done the surgery, which, after all had been a fine piece of masterful genius, and which could not possibly have contributed to any subsequent problems. He breathes a sigh of relief as he reminds himself and anyone else in the near vicinity just how well the surgery had gone. But his self-gratification soon sours as he remembers there is still a problem. His attention is thus turned to those who are undoubtedly to blame for this easily avoidable disaster. The noise level soars, as the frightened half-ling, clearly responsible for this act of gross medical incompetence is publicly denounced, denuded and disgraced.

The flagellator on the other hand, will also hurry to the scene, see the patient and scour the notes. He will by contrast assume it was his fault. It must have been. He had performed the surgery, which, after all had been difficult. He breathes a sigh of despair, wondering whether he could have picked up on this earlier or what he should do differently next time. His agony deepens as he leaves reviewing his actions feeling depressed, demoralised and despondent.

For the castigators the problem and all memory of it ends abruptly with the public humiliation of the insurgent. Their surgical skill, judgement and expertise are intact and need no further assessment. It wasn't, after all, their fault. But for the flagellator the problems continue. Their next theatre session resumes with every semblance of an SHO approaching their first hernia repair as they tentatively return to the operating room, the memory of the case before entrenched in their annals.

In reality, while we all may know someone at both extremes, the majority probably fall somewhere in between. A healthy mix of self-questioning and appraisal is appropriate, while retaining confidence in our ability to do the job. But such arguments are not just hardy perennials in philosophy, they are increasingly becoming part of today's political defence mechanism. As revalidation, reappraisal and clinical governance drive doctors to open and transparent accountability, will the last man standing be he who refuses to blame or he who refuses to err?

'To err is human, to blame . . . even more so' (unknown).

Figure: Rodin's 'Thinking man' – a castigator?

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Clinical Review

Sinistral portal hypertension

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Accepted 4th May 2006

ABSTRACT

Sinistral, or left-sided, portal hypertension is a rare cause of upper gastrointestinal haemorrhage. There are many causes of sinistral portal hypertension. The primary pathology usually arises in the pancreas and results in compression of the pancreatic vein. This compression causes backpressure in the left portal venous system and subsequent gastric varices. Management is usually surgical to treat the underlying pathology and splenectomy to decompress the left portal venous system.

This paper presents four cases of sinistral portal hypertension followed by a literature review of the reported causes and management issues.

KEYWORDS Left-sided portal hypertension, Sinistral portal hypertension, Upper gastrointestinal haemorrhage, Gastric varices

INTRODUCTION

Sinistral, or left-sided, portal hypertension is a rare cause of upper gastrointestinal haemorrhage. Isolated gastric varices result from thrombosis or obstruction of the splenic vein resulting in back pressure changes in the left portal system. The primary pathology usually arises in the pancreas and common aetiologies include pancreatitis and pancreatic neoplasms. Four illustrative case histories from patients with sinistral portal hypertension are discussed, followed by a review of the literature highlighting the aetiology and management of this condition.

CASE SERIES

Case 1

A 57 year old lady presented with upper gastrointestinal bleeding. She had a past medical history of retroperitoneal fibrosis and had a previous incidental finding of a cyst at the splenic hilum, associated with splenomegaly. No active bleeding source was identified at gastroscopy. Following a rebleed, she underwent a laparotomy, which revealed prominent veins around the gastric fundus and confirmed the presence of splenomegaly. Two large actively bleeding gastric varices were ligated. A second laparotomy, following a further rebleed ten days post-operatively, revealed a cystic inflammatory mass in the tail of the pancreas associated with the other features previously noted. There was no macroscopic evidence of liver cirrhosis. Deroofing of the cyst and splenectomy were carried out. Histology revealed benign chronic inflammatory features in keeping with a pancreatic pseudocyst. She has remained well with no further bleeding.

Case 2

A 53 year old man presented with melaena. He had no history of pancreatitis or alcohol excess. Gastroscopy revealed a mass of varices in the gastric fundus but no oesophageal varices or evidence of generalised portal hypertensive gastropathy. CT scan showed a mass between the tail of the pancreas and the splenic hilum. CA 19-9 was elevated at 624 IU/ml. Laparotomy confirmed a mass in the tail of the pancreas but it was unresectable due to infiltration of the posterior abdominal wall. Grossly dilated veins were also noted around the greater and lesser curves of the stomach. Biopsy revealed a neuroendocrine (islet cell) tumour of the pancreas. Immunohistochemistry confirmed a somatostatinoma. He has remained symptomatically well with no further bleeding.

Case 3

A 42 year old woman presented with an upper gastrointestinal bleed. She had no history of liver disease, alcohol excess or peptic ulcer disease. She had a past history of breast carcinoma. Gastroscopy failed to reveal an exact cause of the bleeding. There were no oesophageal varices and no duodenal ulceration. A laparotomy was undertaken for rebleeding and this showed bleeding gastric varices, which were ligated and decompressed by division of several of the short gastric vessels. CT scan revealed a low-density lesion in the tail of the pancreas associated with moderate splenomegaly (Figure). CA 19-9 was elevated at 779 IU/ml. Subsequent staging laparotomy revealed dilated vessels around the greater curvature and multiple intraperitoneal deposits in keeping with metastases. Histopathology indicated metastatic pancreatic adenocarcinoma. Pancreatectomy and splenectomy were not attempted in view of the advanced disease.

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Case 4

A 41 year old man had a past medical history of alcoholic pancreatitis and had a previous pancreatic pseudocystgastrostomy. He had multiple subsequent admissions for upper gastrointestinal bleeding requiring transfusion. Endoscopy revealed mild gastritis. Mesenteric angiography was negative. Laparotomy was undertaken following a massive rebleed. Dense adhesions were noted around the pancreas and spleen in keeping with chronic pancreatitis and the splenic vein was noted to be grossly dilated and thrombosed. Gastrotomy revealed brisk haemorrhage from the region of the gastrooesophageal junction. Splenectomy and distal pancreatectomy were undertaken followed by oesophageal transection to further control the bleeding. He has had no further bleeds three years following surgery.

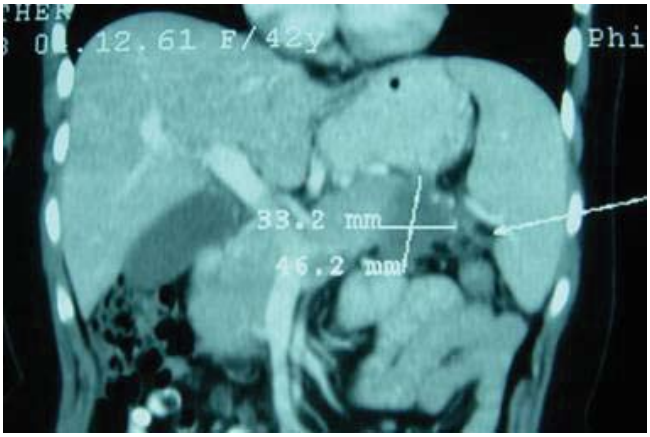

Fig 1. CT scan demonstrating a solid lesion in the tail of pancreas with splenomegaly and enlargement of the splenic vein (arrow).

DISCUSSION

Greenwald and Wasch first outlined the pathophysiology of left-sided portal hypertension in 1939.[1] The development of this has been recognised as an important cause of upper gastrointestinal bleeding resulting from gastric varices secondary to pathology in the pancreas. The splenic vein is susceptible in lesions of the pancreas due its close anatomical course along the superior pancreatic surface. The most common pathologies resulting in splenic vein thrombosis or obstruction and leading to the phenomenon of left-sided portal hypertension are chronic pancreatitis,[2-4] pancreatic pseudocysts[5] and pancreatic neoplasms. These include benign neoplasms, adenocarcinoma and functioning and non-functioning islet-cell (neuroendocrine) tumours.[6-14] There are numerous other less common pathologies reported. These include iatrogenic splenic vein injury,[15] post-liver transplantation,[16,17] a wandering/ectopic spleen,[18,19] infiltration by colonic tumour,[20] spontaneous splenic vein thrombosis[21] and perirenal abscess.[22] This case series provides examples of four distinct causes, a pancreatic pseudocyst, a neuroendocrine tumour, an adenocarcinoma of the pancreas and chronic pancreatitis.

Splenic vein occlusion results in back pressure which is transmitted through its anastomoses with the short gastric and gastroepiploic veins and subsequently via the coronary vein into the portal system. This results in reversal of flow in these veins and the formation of gastric varices. The hypertension is confined to the left side of the portal system and is therefore distinct from the common phenomenon of generalised portal hypertension. Isolated gastric varices occur in left sided and generalised portal hypertension,[23] however, the more common phenomenon of generalised portal hypertension should initially be excluded. The diagnosis of sinistral portal hypertension should be considered in all those with upper gastrointestinal bleeding associated with splenomegaly and normal liver function tests.[24]

Management of this condition traditionally involves surgical removal of the primary cause if possible, combined with splenectomy.[2,5] Splenectomy decreases the arterial inflow into the left portal system by ligation of the splenic artery, resulting in decompression of the gastric varices. Prophylactic splenectomy may not be necessary in all patients with sinistral portal hypertension. The benefits of splenectomy are obvious in the management of those with severe upper gastrointestinal haemorrhage in order to rapidly reverse the cause. However, it may be acceptable to undertake a more conservative approach in those with more minor bleeds or in asymptomatic patients.[25] Embolisation of the splenic artery has also been suggested as an alternative to splenectomy in high-risk patients[5] or as a preoperative measure to reduce intra-operative blood loss.[26]

The overall prognosis for patients with sinistral portal hypertension is clearly dependant on the primary pathology but will invariably be poor in cases with a malignant primary pathology, as involvement of the splenic vein implies advanced infiltrative disease.[27]

CONCLUSION

Sinistral portal hypertension is an important cause of potentially life threatening upper gastrointestinal haemorrhage. Primary pancreatic pathology should be considered in patients with isolated gastric varices and in those with upper gastrointestinal haemorrhage associated with splenomegaly in the absence of chronic liver disease. Splenectomy is the appropriate management option when it is associated with major gastrointestinal haemorrhage.

Conflict of interest: None declared

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Annual Oration

The Winged Chariot and the Iron Cages

Royal Victoria Hospital, Thursday 6th October 2005.

Norman PS Campbell

INTRODUCTION

By tradition this talk, given each year at the beginning of October, has been used to welcome the new draft of medical students to the hospital. It has another function, that of allowing a senior (elderly), and in the case of this hospital, generally male, member of the medical staff, the opportunity of airing views on some topic of interest to himself if not to any one else.

Tradition also dictates that the presentation is not a lecture. It is an oration and perhaps this is as well. In July 2005, in the Guardian, David Hare mused on the word "lecture[1]". He wondered when it acquired its negative connotations. He recalled a review of one of his plays: "it was more like a lecture than a play"' - lectures may be remembered for long windedness, boredom and scolding. Perhaps the Staff of the Hospital has felt that calling it an oration provides some insurance against tedium, even promises something grander or uplifting.

You will have also noticed that the title gives little away about the topic. This should not be taken as an indication that I wished to be obscure. At the time I was asked for a title I had only a vague notion of what the content would be. Something essentially non-restrictive seemed very necessary at that time. And there is advice about suitable titles. Richard Asher in 1972, perhaps mischievously, suggested that some should be avoided.[2] "Whither medicine today?" was one such – his warning in 1972 came too late for Harold Rodgers who had given such a talk in this institution some 12 years previously.

Fig 1. *Max Weber – 1864 – 1920. The father of modern sociology.*

So, what are iron cages and winged chariots? The cages come from Max Weber, (Fig 1) often looked on as the father of modern sociology and I will say more of him later. The winged chariot is from an earlier source, a poem by Andrew Marvell (1621 – 1678) (Fig 2). Marvell lived in the troubled times of the English civil war. Initially perhaps of royalist sympathies, he later came to have some admiration for Cromwell – but this is not to imply puritanical tendencies. The poem containing the winged chariot is a witty exhortation 'To his to his Coy Mistress', encouraging her not to delay too long in resisting his attentions, for life is short and:

> *"…… at my back I always hear*
> *Time's winged chariot hurrying near*
> *And yonder all before us lye*
> *Deserts of vast eternity".*

The 'winged chariot' emphasises the rapid passage of time and part of my talk deals with some of the changes that have occurred in my lifetime in medical practice. It is for me an alarming thought that it is now 39 years since I attended my first oration as a student in 1966. Dr Richard Clarke's superb history of The Royal Hospital tells me that the orator was Dr Harry Shepherd, a noted local radiologist.[3] I know I must have been there as attendance was obligatory, but I have absolutely no recollection of what was said – perhaps a sad indication of the fate of all orators.

THE WINGED CHARIOT

THE NEW ROYAL VICTORIA HOSPITAL

And there have been many changes since 1966 not least the dramatic change in the appearance of the new hospital (Figs 3 and 4). Well, not completely new – during the construction:

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Fig 2. *Andrew Marvell, Politician and Poet (National Portrait Gallery)*

"Old bases in deep concrete were excavated and the material transported to Eastwood's recycling facility at Cross Hill near Crumlin. There, the materials were crushed and transported back to the RVH site for use as piling mat to provide bases for new construction work". (Suzanne Eastwood, Company Director, Eastwood Ltd., Northern Ireland. Personal Communication. Unpublished. 2005).

The 'New Royal' has grown up on foundations made from part of the old hospital.

THE NEW LANGUAGE OF MEDICINE

Change has also affected the language we speak There has been the emergence of management speak. I remember cutting out an article in the BMJ in 1993 called "Watch your language – ensuring the robustness of targeted briefs".[4] The title itself showed where we were heading. John Hampton revealed some of the horrors of the new tongue in 2000.[5] He found the National Service Framework for Coronary Artery Disease a rich source of cliché-ridden prose. I quote extensively:

"A new vision... A government wide agenda ... An effective service for all who could benefit … Developed by focus groups … Change will need ownership of the guiding values …A shared understanding within and across agencies and stakeholders … Involvement of patients and users who can provide an unique perspective – and involvement of staff (*this apparently as an afterthought*) … Effectively targeted resources which lever change …Sharp focus on delivering improvements … Local players … Key stakeholders …Concerted action ... Measured with milestones".

Hampton's uncomplimentary comment:

"The report is a joy for managers to read but a yawn for clinicians".

THE 1980 REITH LECTURES

More important has been the change in the attitude of sections of the public towards doctors and the profession. The 1980 Reith Lectures by Ian Kennedy - "Unmasking Medicine" - were a major marker of this change.[6] In the foreword to the book of the lectures he writes:

"My purpose is to ask some questions about the way medicine is thought of and practised".

Reading through the lectures 25 years on, they seem to have a prophetic air. Many of his questions, comments and criticisms have been acted on and have become part of standard medical practice. He emphasised the management of the whole patient versus the disease – a holistic approach. He commented on aspects of probity and ethics and professional regulation. He highlighted problems with consent. He recommended audit and he made a particular plea for the widespread adoption of evidence based medicine.

EVIDENCE BASED MEDICINE

Let me illustrate some of the changes in the evidence base

Fig 3. *The Destruction of the Old Royal Victoria Hospital (Picture by permission of Mr Michael Ross)*

Fig 4. *The Emergence of the New Royal Victoria Hospital. (Picture by permission of Mr Michael Ross)*

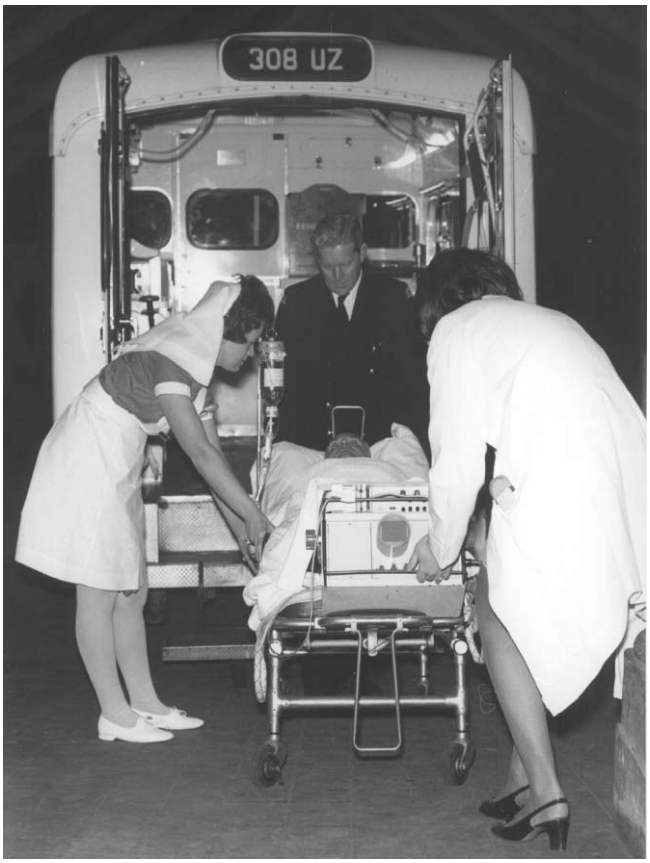

Fig 5. *Cardiology in the Royal Victoria Hospital 1970's. A patient being moved into the cardiac ambulance 1970. In fact a simulation – the 'patient' is the late Mr Alfie Mawhinney, a much respected engineer in the Cardiology Department.*

for treatment in my own speciality of cardiology. In 1968 a 24 year old man suffered his first myocardial infarction. I first met him in 1973 when he was admitted to hospital with a second infarct. He was seen early after the onset, as was fitting for a unit with a mobile coronary care unit (fig 5). He was treated with analgesia. Because his heart rate was slow he was given intravenous Atropine. He was in hospital for 18 days. At discharge he was told to "take things easy for three months". He was placed on warfarin and quinidine, the latter as an anti-arrhythmic drug. Smoking was "to be discouraged".

What was the evidence that these treatments were of benefit? – virtually none, apart from the need for early care and the advice to stop cigarettes. Some treatments – the use of anti-arrhythmic drugs – have subsequently been shown to be harmful.

Over the next 30 years he has received large number of drugs and has undergone a number of procedures, culminating in heart transplantation earlier this year (Table I). All these therapies were prescribed with confidence largely on the basis of the results of properly conducted randomised controlled trials[7] The number of such trials, often involving very large numbers of patients, has increased greatly and rightly so - they are a formidable advance in the rational treatment for our patients - but there are some important issues about the way in which they may affect our practice.

Table I

Evidence Based Interventions and Medications received by the patient described in the text.

INTERVENTIONS	MEDICATIONS
CABG (coronary artery by-pass surgery) AICD (automatic implantable cardiac defibrillator) Bi-ventricular pacemaker Cardiac Transplant	Aspirin ACE inhibitor Beta-Blocker Anti-platelet agent Statin Spironalactone

Let me illustrate using the results of the ISIS 2 study - published in 1988 it assessed the effects of aspirin (ASA) and the thrombolytic drug streptokinase (STK) when given soon after presentation with acute myocardial infarction.[8] The study was a massive, controlled, randomised trial involving more than 17,000 patients - see Table II. The patients in Group I received a placebo, those in Group II ASA but no STK. Group III received STK but no ASA. Group IV received STK and ASA. Table II shows the highly significant reduction in death after 35 days in the group receiving combined STK and ASA compared to those receiving placebo. The effects of ASA or STK alone were intermediate.

The relative reduction in death with the combined drugs compared with placebo was 42% (13.2 % to 8%) and 24% (10.7%-8%) when compared with ASA alone. These relative gains are impressive but the absolute benefit less so. Thus, 100 patients need to be treated with combined STK and ASA to prevent 2-3 deaths compared with ASA alone. The study shows a highly statistically significant benefit of treatment but the overall gain to an individual patient is small and is accompanied by a small risk of cerebral haemorrhage in all active treatment groups.

Table II:

Summary Results of the ISIS 2 Study,[8] (17,187 patients with acute myocardial infarction).

	Placebo	**ASA**	**STK**	**STK +ASA**
Death at 35 days	568	461	448	343
Total pts	4300	4295	4300	4292
%	13.2	10.7	10.4	8
Reduction in deaths				
Relative	42%	24%		
p value	<0.00001	<0.001		
Absolute per 100 Patients	5.2	2.7		
Complications				
Brain Haemmorrhage	0	5	7	5

ASA = aspirin; STK = streptokinase. The relative reduction in deaths at 35 days after infarction of 42% and 24% and accompanying p values compare respectively combined STK and ASA with Placebo and ASA.

CAVEATS ABOUT RCT'S

In the year 2000 a poignant article was published in the Journal of the Royal College of Physicians[9] and I quote:

"Last week my friend James was admitted to hospital with a myocardial infarction …He was given a thrombolytic drug ... A CT scan confirmed a massive cerebral haemorrhage and he died a few hours later as a result of this".

"The drugs reduce the relative mortality by 20% but the absolute mortality by only 2%". What patient would consent to an operation with only a 1 in 50 chance of it benefiting him?"

"The irony is that the double blind randomised placebo controlled trial, that knight in armour, has been used to provide the statistical significance that justifies it all".

"The sad result of this modern doctrine ... old ladies, frail, demented and incontinent will come in with their list of medications – ACE inhibitor, statin, warfarin, excellent examples of best practice, evidence based and outcome validated ….Then there is James with all eternity to take comfort from the fact that his door to needle time was well within national guidelines."

All clinical trials suffer from the drawback that the results are derived from data obtained from a group. The clinician does not prescribe for a group but for one person and must individualise the treatment.

This is not a new concept. Henry De Mondeville round the year 1300 stated:

"Anyone who believes that the same thing can be suited to everyone is a great fool, since medicine is practiced not on mankind in general but on every individual in particular"[10]

In the case of patients with acute myocardial infarction the major benefits of thrombolytic therapy are seen in those who are at risk of major cardiac damage – this can be deduced by features such as anterior location, extensive ST segment elevation, haemodynamic compromise. The risk of bleeding complications (including cerebral haemorrhage), is highest in the elderly especially if female, with the use of certain thrombolytic agents (tissue plasminogen activator – t-PA), large doses of heparin and where there is a potential source of bleeding. The correct choice of treatment must be based on a reasonable assessment of the interplay of these various factors, rather than simply administering the drug without further thought.

There are other pitfalls in the application of the results of large clinical trials to the general population.[10,11] Randomised trials generally deal with a well-defined highly selected group of patients who may be picked, in part at least, on the basis that they are likely to respond and that they may be compliant in taking medications. The patients may be at a lower risk than the general run of patients admitted to hospitals - they tend to have a relative lack of co-morbidities. The patients in the trial may well not be truly representative of those seen in normal practice. The trials themselves tend towards short to medium term follow-up – perhaps 3 - 5 years – rather than being truly long-term.

These comments are not to take away from the fundamental importance of the RCT. The widespread adoption of the results has been one of the most important advances in medicine over recent decades. The data from these studies have moved us from the era of folk medicine and provide the firm bed-rock for our current therapies. But they have their drawbacks which must be recognised.

Fig 6. *Professor Frank Pantridge 1970's, holding one of the first light weight portable defibrillators*

THE VALUE OF OBSERVATIONAL DATA

The major thrust for the rational use of therapy has come from the results of clinical trials. But information for practice also comes from other valuable sources. I would like to make a slight digression to mention my former chief, Professor Frank Pantridge, who died[12] on Boxing Day 2004. (Fig 6) As many of you will know Professor Pantridge made a massive contribution to the management of the acute heart attack. The two major principles of his approach were that early care, started as soon as possible after the onset of symptoms, improved prognosis, and that patients with ventricular fibrillation should have the heart rhythm disturbance corrected as soon as possible by de-fibrillation. These two aims could be realised by the introduction of mobile coronary care (taking the hospital to the patient) and the widespread availability and use of lightweight portable defibrillators.

These treatments were not developed from controlled trials but from careful observation of patients in their illnesses. Observational studies of this type, including meticulous collection of clinical data from series of patients (and this may include large multi-national registries) combined with careful follow-up remain important in the development and assessment of new therapies.

And it is important not to forget the humble case report, a greatly under-rated part of the medical literature. Reports of how difficult or unusual conditions were diagnosed and managed may be invaluable in the approach to a difficult clinical problem. I still find these reports the most interesting parts of the medical literature as well as giving help in the management of an unusual problem. In this hospital the weekly case presentations at the Physicians' Meeting remain as important a part of the educational life of the hospital as they did 40 years ago.

THE MEDICALISATION OF LIFE

In the mid 1970's Ivan Illich published his controversial book 'Medical Nemesis' in which he described medicine as sick, perhaps a fore-runner of Ian Kennedy. In it he described the encroachment of medicine into the apparently healthy population. Traditionally the prime job of the physician is the care of the sick rather than the expropriation of the healthy - the taking on "the whole world as a hospital ward". Petr

Skrabanek[13] in his often hilarious book has described the development of 'anticipatory medicine' with regular check ups and screening of healthy people. Using official guidelines he calculates that a 'low risk healthy woman between the ages of 20 and 70 should visit her doctor annually, have 278 examinations, tests and counselling sessions'.

Skrabanek mocks attitudes to health promotion, quoting the graffito:

"I don't smoke nor drink. I don't stay out late and don't sleep with girls. My diet is healthy and I take regular exercise. All this is going to change when I get out of prison."

In cardiology the anticipatory or preventive approaches are especially well developed. Westin and Heath[14] discussed results from the Nord Tröndberg health study. If levels of blood pressure of 140/90 and cholesterol of 5.0mmol/l are taken as targets at which treatment may be started, then, by the age of 50, 90% of the population will need their cholesterol lowered and 45% will require blood pressure regulation. The authors emphasised the cost of this in terms of expense, worry for the patient & the potential for long-term side effects.

THE IRON CAGES

THE 2002 REITH LECTURES

In 2002 Onora O'Neill delivered the Reith Lectures – her topic "A Question of Trust".[15] Whereas the 1980 lectures could be considered an attack on the profession, the 2002 lectures were, at least in part, a defence of professional values. The change in tone perhaps reflects an appreciation that in the 22 years between the two lectures something valuable was in process of being lost. I will be quoting from parts of her important lectures during this section.

UNHAPPY DOCTORS

In 2001 Richard Smith wrote an editorial for the British Medical Journal titled: "Why are doctors so unhappy? [16] The article was interesting in itself but perhaps most striking was the reaction of the readership - 75 letters were subsequently published in the BMJ in response to it. The correspondents identified a number of reasons for the unhappiness and many can be included within the three P's – politicians, patients and the press. Perhaps surprisingly, the fourth P, pay, did not feature highly.

POLITICIANS

The constant state of upheaval and the changes in the way the health service is run were cited as major problems. One correspondent described:

"a constant state of management reorganisation (upheaval). My own service is part of three separate re-organisations".

Raymond Tallis[17] in his wonderful book 'Hippocratic Oaths' has accused politicians of change for change's sake with perversion of the old adage:

"If it is not necessary to change it is necessary not to change."

To:

"Even if it is not necessary to change it is necessary to change".

The reason for this state of 'Continuous Revolution' may lie in the rapid change of leadership of the health service. From 1979 to 2005 there have been 11 different Secretaries of State the majority staying in post for no more than 2-3 years. For many the job represented the pinnacle of their political career.

There is a major contrast between changes introduced into medical practice and those wrought by politicians – the former are now largely evidence based whereas political innovations, including the changes in the way the health service is run, are opinion based and often inadequately researched beforehand.

Politicians can also be accused of raising patients' expectations – examples include the Patients' Charter and the targets that are now being set which in themselves produce distortions in the way health care is provided. Raymond Tallis[17] has described the phenomenon of "the lump in the carpet". Money may be found to reduce one particular waiting list – that lump in the carpet is flattened but another emerges elsewhere. Waiting lists can be reduced dramatically in the short term, but the gain is illusory if there is no long-term additional money for the impetus to be maintained.

PRESS

The press have generally been treated with some suspicion by the profession. While everybody is aware of top-class journalism dealing with medical matters, we have all noticed the misrepresentations. The words "breakthrough" and "wonder drug" appear far too often, never to be heard of again and shock horror stories abound. Particularly difficult for members of the profession to bear is the hounding that occurs – the naming, the shaming, the blaming - and when ultimately it is shown that there has been no justification for these abuses the lack of an appropriate apology. I quote from Onora O'Neill:[14]

"The media, in particular the print media, while deeply pre-occupied with others' untrustworthiness have escaped demands for accountability".

PATIENTS

The letter writers to the BMJ seemed to have a general perception that patients and their relatives have in some ways become more difficult to deal with. There has been a rise in expectations about what can be delivered. Part of this increase in expectation may have arisen from what is read in the papers, seen on television or extracted from the internet. Part may arise from what politicians say.

THE JOB OF A HOSPITAL CONSULTANT

Though these problems are clearly important in shaping the unhappiness of doctors they are not the whole story. In Table III I have summarised some aspects of the work of a hospital doctor. There is the basic job – on occasion fascinating, at times difficult and demanding, sometimes with moments of near terror.

Then there are what I have called the 'Old Faithfuls' – the features that have coloured my working life for many years – the bed shortages, the demands for shorter hospital stays, the threat of complaints and medico-legal action, efficiency savings (cuts), the usual organisational hiccups – missing

TABLE III

The Jobs of a Hospital Consultant

THE BASIC JOB	
OLD FAITHFULS	NEW THINGS
Bed shortages/reductions with Shorter hospital stay Complaints/Medico-legal Efficiency Savings (cuts) Increasing Demand Medical Advances Organisational *Charts, results*	Appraisal/Accountability Audit CPD E-mails Governance Junior Doctors Hours Management *more meetings* Obligatory Training Targets /Bench-marking

charts, results not coming back, key staff on leave or sick with no replacement.

On top of these come 'New Things' - I have listed them in alphabetical order rather than necessarily in order of inconvenience. All are important to a degree including the obligatory fire lectures, CPR training, avoiding back injury sessions. All make in-roads on our time. The extra hours for preparation and attendance at audit and management related meetings have to be taken out of clinical time and the work caught up with some other time. All these activities take place against a background of new targets and benchmarking.

One of the responses to Richard Smith's editorial in the BMJ came from Declan Fox, locum family physician, Prince Edward Island:

"We have seen this over and over …… none of it works. It does not work because each new thing brings with it increasing bureaucracy".

THE IRON CAGE AND BUREAUCRATIC CONTROLS

It is this increasing bureaucracy which is the Iron Cage of the title. Max Weber[18] (Fig 1) is not widely read in this province though one might have supposed that his major work – 'The Protestant Ethic and the Spirit of Capitalism (1905)'- might have some appeal here. He was much occupied with the concept of bureaucracy. He believed it an efficient way of running an organisation but to have inherent dangers. Some of his remarks are noted in table IV.

TABLE IV

Max Weber on bureaucracy.

"The principles of office hierarchy and of levels of graded authority mean a firmly ordered system of ...subordination in which there is a supervision of the lower offices by the higher ones"

"The passion for bureaucratization drives us to despair

"Not summer's bloom lies ahead of us, but rather a polar night of icy darkness and hardness, no matter which group may triumph externally now"

"A bureaucratically organised social order, "an IRON CAGE" in which people are trapped"

MANAGERS ARE NOT THE ENEMY

It is important to appreciate that my comments are not intended as an attack on managers or administrators – we as doctors could not survive in the current climate without managers to help us through the administrative jungle. I have had the pleasure of working with a number of managers over the last 10 years and without their help and dedication life would have been even more difficult. But I am criticising the continuous changes that have been inflicted on the service, the bureaucracy which seems ever expanding and the increasingly widely applied mechanisms of control.

Onora O'Neill spoke of these controls and saw them as a danger, a barrier to carrying out professional duties (table V). Raymond Tallis developed the theme a little further, and feared[17]:

"The de-professionalising of medicine – loss of its direction in thickets of regulation born of bureaucratic distrust".

The problems do not only apply to our profession but also to others including teachers and other public servants. I think we can take some comfort that the issue of excessive controls and the adverse effect they may have on the way we perform our duties has been recognised outside our own areas of work. We would I think all recognise that the controls increase the difficulties we already have in carrying out our job.

TABLE V

Onora O'Neill on aspects of the new bureaucracy[15]

"We are imposing ever more stringent forms of control. We are requiring those in the public sector and the professions to account in excessive and sometimes irrelevant detail to regulators and inspectors, auditors and examiners. The very demands of accountability often make it harder for them to serve the public sector"

"Doctors speak of the inroads….into the time they can spend into finding out what is wrong with their patients"

"…complaints procedures are so burdensome that avoiding complaints, including ill founded complaints, becomes a central goal in its own right"

"The new accountability is widely experienced not just as changing but distorting the proper aims of professional practice"

Weber 100 years ago was even gloomier - "Not summer's bloom lies ahead of us but rather a polar night of icy darkness and hardness". He also asked the question:

"How can we oppose this machinery, in order to keep a portion of mankind free from this parcelling out of the soul?"

THE NEW CONSULTANT CONTRACT – THE ANSWER TO THE MAIDEN'S PRAYER?

Perhaps some of us thought that the new consultant contract would go some way towards helping our problems. After all,

the contract had within it the concept that work done would be recognised. Work not done would not be rewarded. There would be some increase in salary and there would be time for additional activities – audit, teaching, appraisal etc. There was also the opportunity to reduce hours.

From the beginning, however, it was clear that there were differing perspectives. The consultants felt they were working too hard – 50 to 60 hours per week including on-call. There was less and less time for family and leisure. The contract gave a chance for a reprieve. The view of government was rather different – the impression appeared to be that consultants were idle, inefficient and resistant to change. There was the mention of private patients and the golf course. A figure of "No more than ten programmed activities" was suggested. We then went into the diary exercise – a daily log of our activities – which showed in the main that consultants were working considerably in excess of the ten sessions.

The outcome of the negotiations has been unsatisfactory. Prospective cover has not been built into the new plans, nor has there been adequate recognition of "external work". The response from the Department of Health seemed to imply that they were dealing with "greedy doctors". The solution was no reduction in work but increased efficiency with no clear indication how this was to be achieved. Within the province the withdrawal of the contingency fund set aside to provide extra jobs has been a major blow. There has also been withdrawal of time for supporting activities. The prospect is one of more controls, more targets and more discontent.

And this discontent is not a trivial matter. In September 2005 Jeffcoate discussed "Care and despair in the UK National Health Service".[19] He cited an article by Taylor *et al* which appeared in the same edition[20]. The article showed that psychiatric morbidity and emotional exhaustion in consultants from five specialities had risen over an eight year period from 1994 to 2002. The change in well being was attributed to increased job stress without a comparable increase in job satisfaction. Jeffcoate identified the conflict between imposed change and the ability to perform clinical duties, and asked the question as to whether these changes might 'pose a threat to the health and well being of consultant medical staff and of their patients.'

CLOSING REMARKS

I do not wish to end this talk on a negative note. I have tried to emphasise the dramatic improvement in the information and evidence base for practising medicine in the western world. This has grown up largely from well conceived, randomised clinical trials. To this has been added important observational information, so that, though medicine still remains a complex profession, we now have treatments whose effectiveness is known rather than guessed at.

There is I believe a legitimate concern about increasing bureaucracy. I take some heart from my tale of two Reith Lectures. The first, largely uncomplimentary to the profession, gave an indication for the way ahead – and the profession has responded to this. The second, showed a sympathetic appreciation of the problems affecting both our own and other professions. There is increasing recognition of the dangers of dropping morale and of the need for increased resources. In terms of the new contract it is important that the principle remains one of negotiation rather than *dictat.*

I am also encouraged by what appears to me to be the greater teamwork within the health service. I believe there are now much closer relationships between different health professions and different disciplines within the service. I am greatly comforted by the high quality of new doctors coming into the profession. I know that they, including those listening to me today, will continue to uphold the best traditions of the profession in the future.

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Paper

The Emerging Pattern Of Hydrops Fetalis - Incidence, aetiology and management.

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ABSTRACT

***Objectives* – To analyse the incidence, aetiology and management of live born cases of hydrops fetalis in a Regional Perinatal Centre.**

***Methods* – We reviewed 35 cases of hydrops delivered over a six year period.**

***Results* – Non-immune hydrops accounted for 80% of the cases and the majority of babies required Level 1 intensive care. The mortality rate was 40%.**

***Conclusion* – The pattern of hydrops is changing. Most of these babies now have non-immune hydrops and approximately two thirds are surviving.**

KEY WORDS: Hydrops Fetalis, incidence, management

INTRODUCTION

Hydrops fetalis describes the fetus with generalised subcutaneous oedema and fluid collections in some or all serous cavities. Ballantyne described the first case of hydrops fetalis over 100 years ago and 50 years later Potter[1] described non-immune hydrops. Now over 80 conditions are known to be associated with hydrops.[2] Historically, Rhesus isoimmunisation was the leading cause of hydrops in the newborn. However, with the institution of passive maternal immunisation and the development of intrauterine fetal transfusions over the last few decades, non immune hydrops has become relatively more common.

The incidence, aetiology, management and outcome of hydropic babies born in the period 1974-1989 was published over 10 years ago.[3] Since then, obstetric and neonatal practices have changed. The aim of this study was to review all live born cases of fetal hydrops in Royal Maternity Hospital over a six-year period to assess the changes and compare current with previous mortality rates.

METHODS

We performed a retrospective hospital chart review of all live born cases of hydrops delivered in Royal Maternity Hospital, Belfast in the period 1996-2002. Stillbirths were not included because the cause had not been identified in some cases. The appropriate case notes were identified using both computerised ICD10 coding system and manual review of the admission logbook.

A proforma was then completed and the following information recorded – gestational age at diagnosis, delivery details, birth weight, aetiology (if known), and subsequent management and outcome.

RESULTS

In the six year period there were 35 live born cases of fetal hydrops among the 25,443 live born deliveries in Royal Maternity Hospital – an incidence of 1.34 /1000 live births. We chose not to include stillbirths because, in some cases, a full assessment to determine the cause had not been performed.

An antenatal diagnosis of hydrops fetalis was made by ultrasound scanning in 25 out of the 35 cases with the median (range) gestational age at detection being 26.8 (16-33) weeks. Out of the 10 cases that were not detected antenatally, one case was due to Rhesus disease and the remaining nine were in the non-immune group (one Trisomy 21 and eight unknown cause). Eight women had amnioreductions, one had an intrauterine fetal transfusion and one had both.

The median (range) gestational age at delivery in our study was 31.5 (26-38) weeks and the birth weight was 2371 (882-4844) grams. Male to female ratio was 2.5:1

Non-immune hydrops accounted for 80% of the total diagnoses. In four cases a cardiac cause was found (two supraventricular tachycardias, one dilated cardiomyopathy and one double outlet right ventricle and transposition). Four babies were found to have Trisomy 21. One baby was found

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to be CMV positive, one had a diaphragmatic hernia and one baby had a thoracic myofibroma. No cause was found in the other 17 cases.

The remaining 20% of cases were due to Rhesus incompatibility. None were due to other types of blood group incompatibilities.

The majority of babies were mechanically ventilated with 63% requiring chest aspiration or drains inserted early on in the course of their management. 13 babies (37%) had peritoneal aspiration performed or intraperitoneal drains inserted. Four of the seven immune babies had exchange transfusions carried out. Inotropes were necessary in 34% cases.

Over the six year period, the mortality rate for babies born with hydrops fetalis was 40%. There were 13 neonatal deaths (mostly occurring within 24 hrs of delivery) and one baby died at 62 days of age secondary to sepsis and renal failure. All 14 deaths occurred in babies in the non-immune group (three babies with Trisomy 21, one with thoracic myofibroma, one CMV infection and in nine cases no cause known).

DISCUSSION

In the earlier study in Royal Maternity Hospital from1974-1989, there were 27 live born babies with hydrops among the 52,177 live births, an incidence of 0.52/1000 live births.[3] Stillbirths were not included in this study. Wilson et al showed that then the commonest cause of hydrops was Rhesus isoimmunisation and mortality rates were initially as high as 100% and then fell to 50% between1978-1989. The specialised neonatal unit opened in the Royal Maternity Hospital in 1978.

Our study has shown that 80% of cases are now due to non-immune hydrops. New causes of non-immune hydrops are being reported every year but in approximately 50% of cases, no cause can be found despite extensive investigations. These babies continue to be born prematurely, though not as early as in the era when rhesus disease was a common problem. More babies receive ventilatory support and as the incidence of immune hydrops has decreased, there are fewer exchange transfusions. The mortality rate in our study had fallen to 40% (Table I).

The changing aetiology and improvement in outcome is due to several factors. The introduction of anti-D prophylaxis in 1969 has reduced the occurrence of Rhesus-D incompatibility but other materno-fetal blood group incompatibilities can occur.[4] The prenatal management of hydrops is improving with advances in fetal medicine such as the use of high resolution ultrasound scanning, fetal echocardiography and amniocentesis and cordocentesis to determine karyotypes. The information provided by detailed scans and investigations may direct the clinician towards appropriate fetal treatments such as intrauterine fetal transfusions if the fetus is anaemic or thoracocentesis if required. The decision to deliver the baby should involve close liaison between the obstetrician and he neonatologist. Planned delivery of the baby in a tertiary centre allows the baby the best chance for advanced resuscitation and neonatal care.[5, 6] This is reflected in the increased incidence rate we found in our study. That babies require extensive intensive care is evident in their need for ventilatory and inotropic support. The equipment available now is more advanced than the equipment that would have been available at the time of the previous study.[3]

A study carried out in a tertiary fetal medicine centre in Birmingham in the late 1990's also demonstrated that the majority of cases had a non-immune aetiology (87.3%). Mortality rates in this group were greater (62%)[7] than in our study.

The neurodevelopmental outcome of these babies is of concern. Recent studies have indicated a good outcome in survivors with non immune hydrops fetalis.[8] In a review of the long-term outcome in 19 children with non immune hydrops who survived beyond 1 year of age, 13 (68.4%) showed normal development, 2 mild developmental delay and the remaining 4 children had severe developmental problems.[9] We plan to further study the longterm outcome of survivors in our two cohorts of babies to determine whether their psychomotor development is comparable to that found by other researchers.

The authors have no conflict of interest

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TABLE I.

Comparisons of results with previous published findings

	1974-77[3]	1978-89[3]	1996-2002
Number	11	16	35
Gestation (wk) *	28.9±3.2	30.9±4.3	31.5±3.4
Birth weight (g) *	1607±741	1975±802	2371±795
Immune **	11 (100)	12 (75)	7 (20)
Non immune **	0	4 (25)	28 (80)
Mortality **	11 (100)	8 (50)	14 (40)

* mean ± sd ** N (%)

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Paper

Substance Abuse in Pregnancy: Opioid substitution in a Northern Ireland Maternity Unit

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SUMMARY

An increase in illicit drug use in Northern Ireland may well have links to the resolution of political conflict, which started in the mid 1990s. Social issues, heretofore hidden, have emerged into the limelight and may be worsened by paramilitary involvement.[1] Registered addicts in the four Health Board areas have shown an increase from 1997 with the greatest number resident within the Northern Board Area.[2] As the prevalence of heroin use in Northern Ireland increased, the Department of Health and Social Services and Public Safety (DHSSPS) commissioned a report, to recommend the development of substitute prescribing services.[3] A case series of pregnancies was reviewed, within the Northern Board Area, where the mother was taking opioid substitution therapy. This resulted in baseline data of outcome for both mother and baby specific to a Northern Ireland population. The different medications for opioid substitution are also assessed. This information will guide a co-ordinated approach that involves obstetrician, anaesthetist, psychiatrist, midwife and social worker to the care of these high-risk pregnancies. Eighteen pregnancies were identified in the study period. Sixteen of these had viable outcomes. One was a twin pregnancy. Outcome data was therefore available for 17 infants.

Information was obtained regarding patients' social and demographic background, drug taking behaviour and substitution regimen. Antenatal and intrapartum care was assessed and infants were followed up to the time of hospital discharge.

INTRODUCTION

Drug abuse in pregnancy poses significant health risks to mother and fetus. Opioids are associated with an increased risk of low birth weight infants, intrauterine growth restriction (IUGR), preterm delivery, neonatal abstinence syndrome (NAS) and sudden infant death syndrome (SIDS).[4] Neonatal withdrawal effects from heroin usually occur within 24 hours, those from methadone at 2 – 7 days. The signs and symptoms of withdrawal may affect all systems, particularly the central nervous system and gastrointestinal tract. Treatment involves regular feeding, correction of dehydration and drug therapy if required. A variety of agents, including morphine, methadone, chlorpromazine, phenobarbitone, diazepam and chloral hydrate have been used.[5] Duration of symptoms varies (6 days to 5 weeks). Sudden infant death syndrome is two to three times greater in this group of infants.[6]

Abrupt withdrawal of opiates in pregnancy is also potentially dangerous with a risk of miscarriage, stillbirth and preterm labour. Pregnancy, however, provides motivation for lifestyle change and many women want to stop illicit drug use in the interests of their unborn babies.[7] As healthcare providers working within a multidisciplinary setting we have a unique opportunity to address some aspects of this drug-taking behaviour when a woman is pregnant.

Methadone is the preferred substitution drug for use in either maintenance treatment or detoxification during pregnancy. It is a synthetic opioid with a long half-life, so may be given once daily. It is available in oral solution at 1mg/ml. It is usually prescribed weekly and dispensed daily in the community. It will completely remove withdrawal symptoms but does not induce the same "high" the opiate user finds in heroin. Maternal blood concentrations are relatively stable, reducing some of the intoxicating "swings" to which the fetus of a heroin-addicted mother is exposed. Maternal use of methadone may be associated with reduced fetal growth (a common problem in heroin addicts), but there is no evidence of teratogenicity.[8] Patients are usually stabilised on methadone in the first and third trimesters. If withdrawal is an option, this is best done in the second trimester. The aim is to reduce methadone to 15mg or less by the delivery date to reduce the risk of Neonatal Abstinence Syndrome (NAS).

Buprenorphine (Subutex) is an opioid partial agonist. It is increasingly used as an opioid substitute in the UK since being licensed here in 1999. It is given as a once-daily sublingual tablet at an initial dose of 0.8 to 4mgs but there is

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limited experience of its use in pregnancy in the UK. Case series (particularly from Europe) have been reassuring and rates of Neonatal Abstinence Syndrome are slightly reduced overall (range from 47% to 72% of infants).[9,10,11,12,13] It is suggested that the severity and duration of NAS is also improved. Because of its partial agonist activity there is some concern regarding analgesia use with buprenorphine. These patients require careful planning of analgesia for labour. It causes less enzyme induction than methadone and may be a better alternative for patients requiring other medication e.g. anticonvulsants.

Dihydrocodeine is not licensed as an opioid substitution treatment but has been used to wean patients off stronger opioids. There is a growing concern about its use in this respect as repeated tablet taking throughout the day – (necessary due to the drug's short half-life) may reinforce patterns of drug-taking behaviour and prohibit change.[14]

OBJECTIVES

From a case series of pregnancies, where the mother was taking opioid substitution medication to:

1. Produce baseline data of outcome for both mother and baby specific to a Northern Ireland Maternity Unit.
2. Review the possible treatment options for opioid substitution in pregnancy.
3. Produce guidelines for use in our maternity unit: to optimise patient care and provide a set of standards for future audit and training.

METHODS

Antrim Hospital Maternity Unit delivers approximately 2300 babies per annum. Cases for inclusion in the series were identified using NIMATS (Northern Ireland Maternity System) computer database of all pregnancies delivered from 1st January 1995 until 31st August 2004. The search criteria documented maternal medications under the headings "Drug Abuse", "Heroin", "Methadone" and "Detox. Programme." The cases highlighted were then cross-referenced with patients registered and treated with input from the local addiction unit based in Holywell Psychiatric Hospital.

Management of these pregnancies is currently based on the 1999 Department of Health report – "Drug Misuse and Dependence – Guidelines on clinical management". The multidisciplinary team consists of: addiction psychiatrist, obstetrician, GP, social services childcare team, obstetric anaesthetist, neonatologist and midwives (community and hospital). The addiction team works closely with the obstetric team, seeing patients in whatever setting is most appropriate for the individual's need. A pre-birth multidisciplinary meeting takes place between 32 and 36 weeks gestation to discuss the likely childcare management plan following delivery. After the delivery a further meeting takes place to activate the plan and review the overall situation.

From the patients' charts, information was obtained regarding:

- Patients demographic and social details and drug-taking history
- Obstetric history (past and present)
- Labour/delivery details
- Infant details, including admission to neonatal unit (NNU)
- Social Services involvement

RESULTS

Antenatal Care / Labour and Delivery: Figure 1 outlines the pregnancies identified, drugs of abuse, mode of delivery and analgesia required in labour. Routine antenatal screening bloods (full blood picture, Treponemal antibody tests, blood group and hepatitis B antigen) were normal except in one case that had low titres of Anti-E and –c antibodies. Human Immunodeficiency Virus (HIV) screening was introduced in 2003/4.The more recent cases in this series (four patients) were offered routine screening for Hepatitis C and HIV. All tested negative. There was good overall compliance with antenatal care.

Hospital admissions to either Antrim Area Hospital maternity unit or Holywell Hospital Addictions Unit were frequent in 17/18 cases. These were for significant periods of time to cope with social issues and stabilisation of substitution therapy (range 3 – 18 weeks with an average stay of 6 weeks).

Most abused more than one drug (mean 2.4 per person). For those who used heroin, most started this before 22 years of age (range 15 – 36 yrs.)

Of the 15 patients who laboured, seven had spontaneous onset of labour (3 preterm) and labour was induced in the remaining 8 patients (all at term). The reasons for induction of labour were: to achieve a planned delivery (5 cases), post-dates (2 cases) and suspected intrauterine growth retardation (one case).

Social and demographic details: *See Table I.*

Information was available for 14 partners, 13 of whom were known current or recent heroin users.

Substitution Treatment: Methadone was taken as substitution treatment in 14 pregnancies (10 - 40mgs at maximum dosage with a mean dose of 25mgs). Two patients discontinued methadone in the third trimester and three further patients discontinued the drug in the early postnatal period.

Buprenorphine (Subutex) was used in two pregnancies, the patients taking 8 and 14 mg throughout.

Dihydrocodeine was used in two pregnancies, the patients taking 4 and 6 tablets daily. One patient reduced the dose postnatally.

Figure 2 outlines the outcome of the 17 neonates. Seven were admitted to the neonatal unit (4 at birth and 3 on day one). All of these were diagnosed with Neonatal Abstinence Syndrome (NAS) +/- prematurity, infection and intrauterine growth restriction (IUGR). Whilst in the NNU two babies required supportive treatment only with fluids, antibiotics, support with feeding and phototherapy. Seven babies in total required treatment with choral hydrate for NAS .The twins, whose mother had been on 40mgs methadone daily

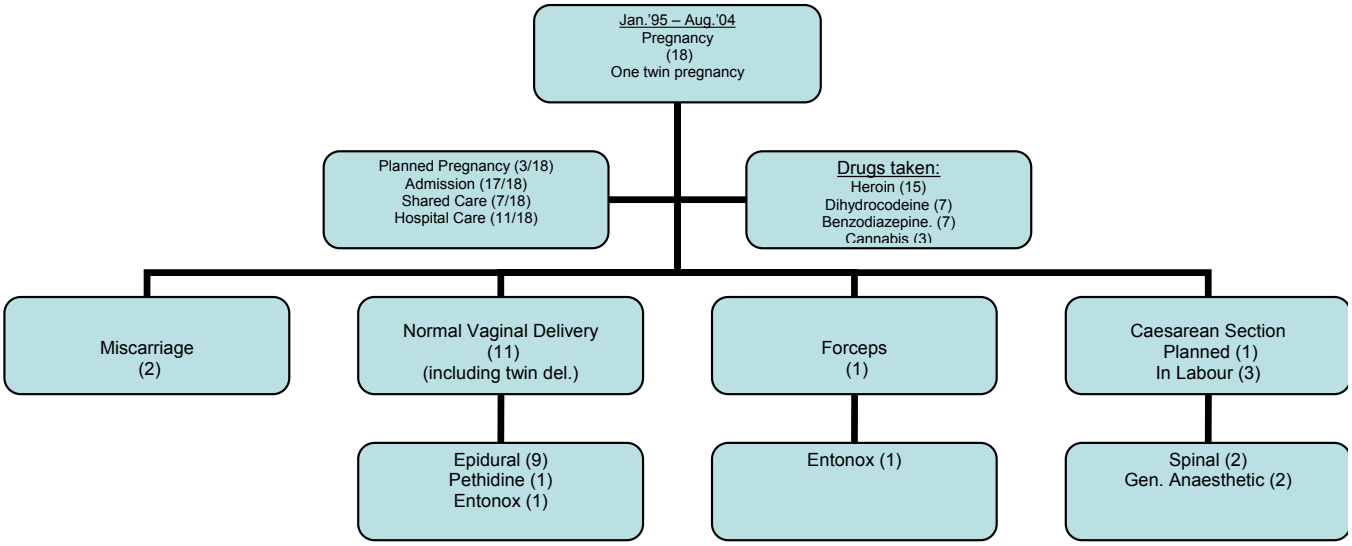

Fig 1. Antenatal Care/Mode of Delivery/Analgesia 18 pregnancies from January 1995 – August 2004.

TABLE I

Social/demographic details

Social/Demographic details	*Number (%)*
Unemployed	16/18 (89%)
Housing exec. Accommodation	18/18 (100%)
Single parents	16/18 (89%)
Cigarette smokers	18/18 (100%)
History of depressive illness	5/18 (28%)
History of sexually transmitted infection	2/18 (11%)
Documented domestic violence	1/18 (5.5%)

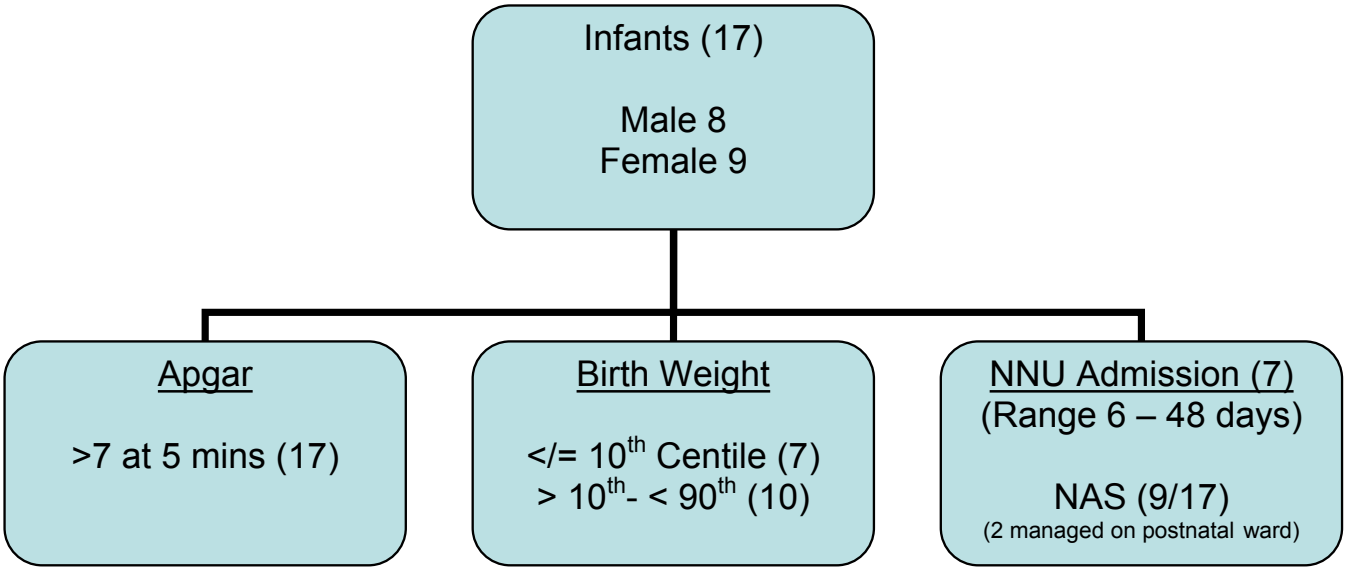

Fig 2. Outcome of 17 Neonates (Apgar score / Birth Weights / Neonatal Unit admission)

in pregnancy, also needed treatment with phenobarbitone (intravenous then oral).

All babies eventually went home with their mothers (most with supportive care from grandparents). All patients had social services support from the booking visit until postpartum. 2/17 babies are on the "at-risk" register as potential for neglect. Two mothers were admitted to prison in the early postnatal period.

DISCUSSION

The number of heroin addicts in Northern Ireland is increasing and with it a population of vulnerable women. In this series, all male partners (for whom we had information) were known current or recent heroin users and this is often the path that leads these women into this pattern of behaviour.

The results highlight social circumstances typical of this group. While most do not plan a pregnancy in these circumstances, the pregnancy itself can provide sufficient stimulus to attempt lifestyle changes for the benefit of the unborn child. These high risk pregnancies require skilled multidisciplinary care to optimise the outcomes for both mother and baby.

The absence of any Hepatitis B or C positive patients in this group is unusual. Some of this data is from cases in the late 1990's when heroin abuse was relatively new to Northern Ireland. A small number of Hepatitis C positive cases have been identified more recently, since this series was compiled. Hepatitis B immunisation is now routinely offered to registered addicts.

The majority of these patients require antenatal hospital admission and often for many weeks. This has repercussions for bed occupancy and staffing in both obstetric and psychiatric units. Many factors exist in these pregnancies that contribute to the finding of small for gestational age infants (41% </= 10th centile). One study has tried to quantify the weight reduction due to opiates alone, concluding a 489gm reduction in infants of pregnant heroin users, 279gm reduction in methadone users and 557gm reduction in those who take both in pregnancy.[15]

53% (9/17) of infants in this series ultimately had a diagnosis of Neonatal Abstinence Syndrome (NAS). This value compares favourably with the quoted incidence from literature (55-94%) and probably reflects the composition of our population who: attended well, had long periods of inpatient treatment and were maintained on relatively low doses of substitution treatment. The numbers in the study are too small to draw any more definite conclusions.

Social services have a large input with these families and see these women frequently throughout pregnancy and on discharge from hospital. It is gratifying that all the infants in this group were eventually able to go home with their mothers, but understand the need for ongoing support and supervision provided by community services and the local child care team.

CONCLUSIONS

Heroin addiction is increasingly prevalent in Northern Ireland (and specifically in the Northern Area Health Board). The limited experience gained in the management of these vulnerable patients has allowed the Antrim Hospital Maternity Unit to develop care guidelines (Appendix I). Other Health Areas have a much wider knowledge of the problems of such care and we are grateful to the resource pack produced by DrugScope/NHS Lothian. Their model care pathway aided the design of our guidelines.[16] These will provide a framework for clinical audit, education and staff training and help to optimise outcomes for these mothers and babies.

Adequate follow-up for this group, where 53% (9/17) of infants had Neonatal Abstinence Syndrome and 12% (2/17) are on the children's at-risk register, is a priority.

ACKNOWLEGEMENTS

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The authors have no conflict of interest.

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Appendix I

Substance Misuse in pregnancy - Management Guidelines

Pre-conception Care	Ideally planned pregnancies Stabilised on opioid substitute if appropriate	Confirm preg. (GP, FPC etc.) Folic Acid 400mcg (preconception – 12 weeks) Early antenatal booking
Antenatal Booking (by 12 weeks)	**Ultrasound scan** – Viability, gestation, dates **Antenatal blood screening** – inc. HIV, Hep. B and C Document **all** drug use – • **Smoking/Alcohol** • **Prescribed med**. – Include name and tele. no. of prescribing doctor and dispensing chemist and dose and frequency of meds. dispensed • **Illicit drug use**: what used, how often, how much, route of admin, duration of use, pattern since pregnant?	Obtain **informed consent** to allow info. to be shared with involved health professionals **Risk assessment** – • Past ob. / med. history • Physical/mental health • Social needs • Domestic violence • Partner's drug use Decide **Shared/Hospital** antenatal care – Document planned reviews **Care Plan** drawn up involving • Maternity care • Primary care • Addiction services • Family/Social care
Hospital reviews	Fetal **Anomaly scan** (20-22 weeks) Third trimester scan(s) for **growth** (28, 34 weeks) Arrange **IOL** if reqd. for planned del.	Parent education classes Discuss poss. of NAS Discuss analgesia for labour Check if venous access diff.
Multidisciplinary meeting	Case conference	Pre-birth to plan services – usually 32-36 weeks
Intrapartum care	Inform obstetric/paediatric staff once admitted in labour **Substitution therapy** to be given as usual in labour **Analgesia** – opioids can be given but dose/ freq. may need increased	**Intrapartum monitoring** – risk of plac. insuff., IUGR, fetal distress, meconium staining **Do NOT use Naloxone** for resp. depression in neonate – supportive measures/ventilate if necessary
Postnatal Care (in Hospital)	Keep Mum and baby together if poss. **Breastfeeding** encouraged unless HIV + or large quantities of stimulant drugs	Encourage to stay in hosp. for minimum 3 days after del. to observe baby for signs of **NAS** **Contraception** – Discuss, document and implement early
Pre-discharge case conference	**Child care/protection issues** Organise **family support** **Medication review**	Clear communication to all healthcare professionals for **follow-up services**

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Paper

Atypical Mycobacterial Infections in Children: The Case for Early Diagnosis

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SUMMARY

Background & Aims: Atypical Mycobacteria (ATB) are a miscellaneous collection of Mycobacteriaceae which also includes M. tuberculosis, M. bovis and M. leprae. In the paediatric population, ATB infections present with non-tender unilateral lymphadenopathy in a systemically well child. Initially the disease may be mistaken for a staphylococcal or streptococcal abscess. Inappropriate surgical incision and drainage is often performed and specimens may be sent for routine histopathology and bacteriology analysis only without considering Mycobacterial infection. The simple incision and drainage procedures can complicate the management and may result in a poor cosmetic outcome. ATB can go undiagnosed until the initial medical management has failed, these surgical interventions performed and the child remains symptomatic. We wish to highlight the importance of considering ATB infection in the differential diagnosis of a child with painless lymphadenitis.

Methods: An illustrative case report is described. A review of the paediatric data from the Mycobacterial laboratories in Northern Ireland over the last 14 years was performed to ascertain disease trends and prevalence of species.

Results: Overall an upward trend in the number of cases of cervical lymphadenitis caused by ATB infections in children was demonstrated. Organisms isolated in our population were M avium intracellulare, M malmoense and M interjectum.

Conclusions: We would like to present this data and a literature review, illustrated by case report, on the optimal management of these infections. We suggest that early definitive surgery is the management of choice, performed ideally by a surgeon with experience of this condition. A heightened awareness of these infections is essential to ensure appropriate early management.

KEY WORDS: Mycobacterial Infection, Childhood infections

INTRODUCTION

Atypical Mycobacteria (ATB) are a miscellaneous collection of Mycobacterial species which also includes *M. tuberculosis*, *M. bovis* and *M. leprae*. Thirteen Atypical species are associated with human infection. These organisms are ubiquitous in the environment, existing in soil and water, as pathogens in birds or cattle and as pharyngeal flora in clinically well humans. Infected children are usually healthy with no immunological impairment and once appropriately treated there is full recovery. Immunocompromised individuals, such as HIV positive and immunodeficient patients, are susceptible to disseminated ATB infections.

ATB infections present with non-tender unilateral lymphadenopathy in a systemically well child. Initially the disease may be mistaken for a Staphylococcal or Streptococcal infection leading to inappropriate incision and drainage which can cause cosmetic complications. Consideration of an ATB diagnosis may not be given until medical or surgical therapy has failed.

We wish to highlight the importance of considering ATB infection in the differential diagnosis of a child with painless lymphadenitis. Over the past 14 years in Northern Ireland, we have observed an upward trend in the number of cases of cervical lymphadenitis caused by Atypical Mycobacteria in children.

CASE REPORT

Our 3-year old patient presented with a firm inflamed swelling in the right submandibular area. Initial medical management with intravenous antibiotics was ineffective. Fine needle aspiration of the lesion revealed acid-fast bacilli on Ziehl-Nielsen staining. Subsequent biopsy demonstrated a granulomatous reaction in keeping with a Mycobacterial infection.

Specific questioning revealed no family history of tuberculosis, abscesses or infections; there were no family

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pets, no exposure to birds and no unpasteurised milk consumption. An initial chest x-ray was normal and Mantoux testing was negative. Conventional anti-tuberculous therapy (Isoniazid, Rifampicin, and Pyrazinamide) was commenced. Definitive Culture at 6 weeks isolated Mycobacterium *avium intracellulare.* The prescription was altered to include Clarithromycin.

This boy remained on antimicrobial therapy for 9 months. When the therapy was discontinued the lesion appeared to be quiescent. However, following a minor episode of local trauma 6 months later, the lesion became swollen, inflamed and started to discharge. The original antibiotic therapy regimen was restarted. Subsequent referral was made to a supra-regional Paediatric Infectious Diseases unit because of failed medical management. Full surgical excision by a paediatric plastic surgeon was recommended as offering the best chance of complete recovery.

At operation an inflammatory mass of submandibular nodes and a large jugulodigastric node were resected. A minor branch of the facial nerve, which had become attenuated to the nodes, was excised and repaired under magnification. There was minimal cosmetic upset and only transient facial nerve weakness. Acid-fast bacilli were seen on initial pus analysis. Histology of the nodes confirmed granulomata & caseating necrosis in keeping with chronic Mycobacterial infection.

Excision was curative as two years later, our patient remains in good health and disease-free.

METHODS & RESULTS

Data on children with ATB-positive culture samples was collected from the only two Mycobacterial laboratories in Northern Ireland, based in Belfast City Hospital and Antrim Area Hospital. The records dated back to October 1990. Data was collected until October 2004.

A total of 40 children aged 1 to 11 years (average age 3.6 years) were included in this study. All children presented with a unilateral neck swelling. Organisms isolated in this population were M. *avium intracellulare* (n=27), M. *malmoense* (n=12) and M. *interjectum* (n=1). Twenty eight out of the 40 children (70%) were female (fig 1). None of the patients suffered recurrence.

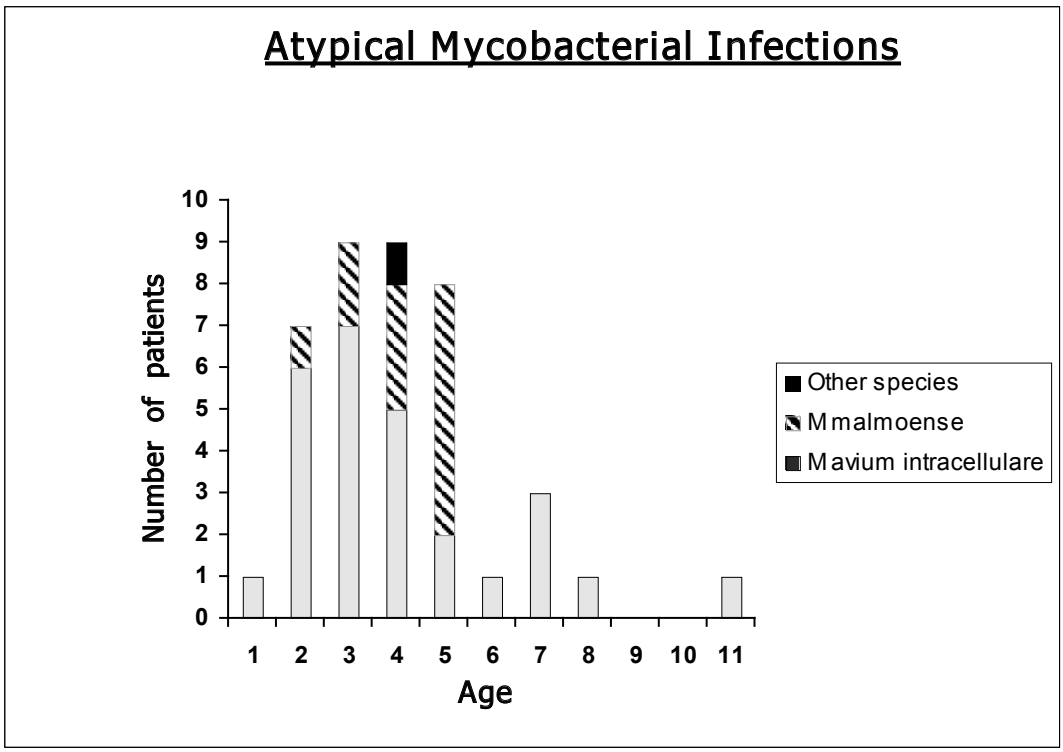
Overall an upward trend in the annual figures for ATB infections was demonstrated. The annual incidence over 14 years varied from 0 to 7 patients per year.

DISCUSSION

Atypical Mycobacterial infections in children are most frequently located in superior anterior cervical or in submandibular nodes (91%).[1,2] The pre-auricular, post cervical, axillary and inguinal lymph nodes can also be involved. The children usually lack constitutional symptoms and present in 95% of cases with unilateral, subacute, progressive lymphadenopathy. The swelling is painless, firm and not erythematous. ATB infections have a winter and spring predominance and higher incidence in females.[1] Person to person spread does not occur.

Mycobacterial lymphadenitis affects children aged 1-12 years. However, the majority of cases are reported in 1-5 year olds presumably because there is increased tendency of these children to put objects contaminated by soil or stagnant water into their mouths. It may also be due to the relative poor immunity to Mycobacteria found in this age group.[3]

Most of the affected children are healthy and are not immunocompromised. Markers of infection (WCC/CRP)



and chest x-rays are normal. Mantoux testing may be positive or negative. Definitive diagnosis is confirmed by surgical excision of the node and recovery of the pathogen by culture. Exact species identification can take up to 8 weeks. Differential diagnoses include tuberculosis, cat-scratch disease, infectious mononucleosis, toxoplasmosis, brucellosis and malignancy (lymphoma).

The natural evolution of the cervical lymphadenitis varies; either the lymph nodes remain indurated for many months, or the disease progression results in softening, eruption, sinus formation and prolonged discharge. Other complications include reactivation after prolonged quiescence and damage to peripheral branch of facial nerve. The latter complication is because the preauricular nodes are often located within the parotid gland necessitating a limited parotidectomy with risk to the facial nerve.

Four large retrospective studies have demonstrated that surgical excision of infected nodes has a cure rate between 81% and 92%, rising to 95% if there is early surgical intervention.[4-7] The evidence for anti-mycobacterial chemotherapy being effective in this infection is limited.[5] Indeed it is accepted that in-vitro sensitivity testing may not reflect clinical response[8] and it is our experience that many children respond inconsistently to these antibiotics. Our case typifies the difficulty in managing this infection with antimicrobial therapy only.

Surgical excision where possible in the hands of an experienced operator is the management of choice. However, surgical excision may be technically difficult because of adjacent and surrounding inflammation. Surgical excision of infected pre-auricular glands may result in a poor cosmetic outcome. In these situations a trial of antibiotics may be warranted. Anti-microbial chemotherapy directed at ATB can include aminoglycosides, macrolides and quinolones.[3,5] We suggest that, where ATB infection is suspected, early referral to Paediatric Infectious Diseases or to a surgeon with experience in this area is indicated.

In conclusion, Atypical Mycobacterial infection presents as local cervical lymphadenitis in immunocompetent children. In our opinion we suggest that early definitive surgery by an experienced operator is the management of choice. Specimens should be sent for histopathology, bacteriology and Mycobacterial culture. A heightened awareness of these infections is essential to ensure appropriate early management.

The authors have no conflict of interest.

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Paper

Addressing a community's cancer cluster concerns

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ABSTRACT

The felling of a telecommunications mast highlighted a community's concern regarding an alleged cancer cluster of eleven cases in a small rural area of Northern Ireland. At the request of the Local District Council, the Northern Ireland Cancer Registry (NICR) undertook an investigation. After extensive searching and contact with the community, only 6 of the alleged cases could be identified. Of these six, two did not have cancer and one had a non-malignant tumour. In addition to the three confirmed cancer cases, a search of the NICR database identified a further 17 cancers of mixed types in keeping with the population pattern of cancers.

Standardised incidence and mortality rates were within, or lower than, the expected level. The results were presented to the local community at an open meeting. Despite extensive media interest when the issue of the alleged cluster was first raised, the negative findings received only local media attention. This study illustrates the value of an accurate population cancer registry in addressing cancer cluster concerns.

INTRODUCTION

A cluster is the occurrence of a greater than expected number of cases of a particular disease within a group of people, a geographic area, or a period of time. Clusters frequently occur by chance. Real and apparent clusters cause much anxiety among those living in the area of concern. In this paper, the steps involved in the investigation of an alleged cancer cluster are documented.

In 1989, a 150 foot-high telecommunications mast was erected in a rural area of Northern Ireland as part of a radiocommunications network. In 2002, people living near the mast were reported[1] to believe it to be responsible for an alleged cluster of cancer cases in the immediate vicinity. Subsequently, in December 2002, the structure was felled (*fig. 1*). The story was covered extensively by the media.

The felling of this mast came after two similar incidents in England and preceded the felling of a second mast close to the location of the first.[2,3] Dungannon District Council requested that the Northern Ireland Cancer Registry (NICR) conduct an investigation into cancer levels in the vicinity of the first felled telecommunications mast. The study aim was to determine whether or not cancer incidence and mortality rates in the area were higher than the Northern Ireland average.

Fig 1. Cranlome Telecommunications Mast: felled in December 2002.

METHODS

The procedures for cluster investigation, as outlined by the Ontario Cancer Treatment and Research Foundation,[4] were followed. The fundamental steps involved in a cluster investigation are as follows;

i. Preliminary assessment and communication
ii. Literature review - to identify what is known already on the alleged cancer source
iii. Validation of reported cases
iv. Ascertainment of unreported cases
v. Analysis
vi. Dissemination of results

(i) Preliminary assessment and communication

After an initial briefing, one of the researchers (AG) presented information on clusters, their investigation and possible outcomes, to a Council meeting, which was open to the public and media. The meeting included discussion regarding

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existing research about cancers and telecommunications masts and about the importance of establishing whether a true cluster of clinical importance existed, i.e. the need to compare observed cases with what would be expected and then test for significance. It was stressed that, even if statistical significance is reached, e.g. at the 5% level, then, by chance, one in every twenty tests will yield a significant result. The geographical limits and diseases to be investigated were also agreed.

(ii) Literature review

To date, the most comprehensive review of the health effects associated with mobile phone communications, was the Stewart Report (2001),[5] which failed to demonstrate any clear health effects caused by the use of mobile phones or being in proximity to base stations. More recently, similar findings were reported by an independent advisory group on non-ionizing radiation.[6]

(iii) Validation of Reported Cases

Accurate information, including personal, identifiable data on all alleged cases of cancer reported in the area of interest, was requested from those alleging the cluster. Upon receipt, this information was checked against the NICR database, which holds information on all cancers diagnosed in the Northern Ireland population. Patient confidentiality was preserved at all times.

(iv) Ascertainment of Unreported Cases

Unreported cases occurring in the immediate vicinity of the Mast were identified using the NICR database, with the help of experts in Geographical Information Systems (GIS) from Ordnance Survey Northern Ireland (OSNI).

The OSNI Large Scale database consists of 1:1250 and 1:2500 scale vector mappings, a derived 1:10,000 scale Raster product, a COMPAS address database and a vegetation associated database. This database forms the basis on which spatial information in Northern Ireland is held, or is related to, either directly through a coordinated position on the Irish Grid, or indirectly through an address or administration area.

Upon our request, GIS experts at OSNI located the exact co-ordinates of the mast on the Irish Grid. Concentric circles, of radius 1km, 2km, 3km, 4km and 5km respectively were drawn around the mast and the COMPAS address database was used to highlight and list all addresses occurring within each of these ranges.

Various matching routines were then employed to match addresses in the area of the mast with addresses of cancer registrations on the NICR database.

(v) Analysis

a) Geographical Areas Studied

Analyses were conducted initially at the administrative area levels of local government district (LGD), electoral ward (EW) and census output area (COA), before turning to the non-administrative areas represented by concentric circles of radius 1, 2,…, 5 km from the mast. Population estimates at LGD level are available in the form of annual mid-year estimates from the Northern Ireland Statistics and Research Agency,[7] whilst those for EW and COA level are available from Census 2001 output.[8] Population estimates at smaller area level than COA are not available from the census office, so analysis at non-administrative area level required liaison with Central Services Agency (CSA), who matched a composite of address variables extracted from the OSNI database with their own system, to give estimates of population in these regions. Therefore, the areas studied for analysis were:-

1. Dungannon Local Government District (population[7] 47,849)
2. Ballygawley Electoral Ward (population[8] 2,296)
3. COAs encompassing the area of interest – referred to as "Cranlome" (population[8] 684)
4. Areas representing concentric circles of radius 1, 2, 3, 4 and 5km respectively from the mast site (population at 0-3km = 395; population at 3-5km = 1147)[9]

b) Statistical Methods

Cancer cases in Cranlome/Ballygawley/Dungannon (and deaths in Dungannon) were compared with those experienced in the wider (reference) population of Northern Ireland, using indirect age-standardisation. Additionally, because of the rural nature of the Cranlome area, cancer incidence rates in Cranlome/Ballygawley were also compared with those occurring in the more rural (reference) population of Dungannon LGD.

Within the concentric circles around the mast, observed numbers of cases were assumed to have a Poisson distribution, as cases are relatively rare events, believed to occur at random. P-values were calculated based on Poisson probability and represent the probability of obtaining at least the observed number of cases by chance. In this study, a prior hypothesis existed (i.e. that numbers of cancers observed in the area of interest exceeded expected numbers) therefore a one-sided p-value was appropriate.

c) Cancers Monitored

The cancers analysed were;

1. All cancers
2. All cancers excluding non-melanoma skin cancer

   and for the larger areas of Dungannon and Ballygawley only:
3. The 3 most common cancers in males; lung, prostate, and colorectal cancer
4. The 3 most common cancers in females; breast, lung and colorectal cancer and
5. Cancers allegedly linked with electromagnetic radiation (brain,[10] leukaemia,[11] lymphoma and haematopoietic cancer[12]).
   all diagnosed during 2001 or 2002

(vi) Dissemination of results

A detailed report, chronicling the events leading to the enquiry, the parameters agreed, methods of analysis, results and conclusions, was compiled in a style which aimed to protect confidentiality. The study findings were presented

TABLE I

Cancer incidence/mortality in Dungannon District Council compared to Northern Ireland 2001 & 2002*

	All Cancers		All Cancers excluding NMS**		Lung		Breast	Colorectal		Prostate	Brain, lymphoma & leukaemia	
	Males	Females	Males	Females	Males	Females	Females	Males	Females	Males	Males	Females
Standardised Incidence Ratio (SIR)	94 (88-99)	100 (94-106)	90 (83-97)	99 (92-106)	84 (69-99)	54 (38-70)	104 (90-118)	78 (62-94)	120 (99-141)	88 (71-105)	101 (79-124)	99 (74-124)
Standardised Mortality Ratio (SMR)	90 (81-98)	92 (83-101)	90 (82-98)	91 (82-100)	85 (70-101)	54 (37-70)	95 (73-117)	92 (68-117)	122 (92-152)	89 (64-114)	110 (80-141)	65 (38-92)

TABLE II

Cancer Incidence in Ballygawley Electoral Ward and Cranlome - comparisons with Dungannon District Council and Northern Ireland for all persons 2001 & 2002*

	Electoral Ward compared to Northern Ireland	Electoral Ward compared to LGD***	Cranlome compared to Northern Ireland	Cranlome compared to LGD***
All cancers (SIR)	77 (60-93)	80 (62-97)	93 (61-126)	96 (63-130)
All cancers excluding NMS** (SIR)	76 (57-96)	81 (61-102)	94 (57-132)	101 (60-141)

* Results above are presented as standardised incidence and mortality ratios. Where SIR or SMR = observed/expected x 100. A result of less than 100 indicates lower than expected rates while rates over 100 indicates higher than expected rates. Confidence intervals which include 100 are not significant.

** NMS = Non-melanoma skin cancer

*** LGD = Local Government District (Dungannon)

at an open meeting of the local council and are available on the web.[13]

RESULTS

Despite our best efforts, of the eleven alleged cases, only six could be identified from contacts within the community. Two of the six which could be verified were not cancer and one was a non-malignant tumour. In addition to the three confirmed cancer cases, details of an additional seventeen cancer patients living within 5km of the Cranlome mast were identified by the NICR. The types of cancer occurring within 5km of the mast were as follows; six non-melanoma skin cancers, three each of breast and colon, two each of leukaemia (both in older people) and rectal cancer, and one each of lymphoma, bladder, ovarian and lung cancer.

The types of cancers diagnosed within the area of the mast were in accordance with what one might expect to be diagnosed in the general population, e.g. skin, lung, colorectal, breast, prostate, stomach, etc.

For all comparisons at Dungannon LGD level, there was either a lower than expected rate of cancer or no statistically significant difference between observed and expected rates (*Table I*).

Cancer incidence rates for all cancers diagnosed in the Ballygawley area (1993-2001) were lower than those experienced in both the whole of Northern Ireland and Dungannon LGD (*Table II*). Incidence rates for all cancers diagnosed in the Cranlome area, over the same period, were not significantly different from those encountered at Northern Ireland level or Dungannon LGD level (*Table II*).

Analysis at non-administrative area level (2001-2002)

Investigation into incidence of all cancers excluding non-melanoma skin cancer (2001-2002) and separately for all cancers including non-melanoma skin cancer (NMS), in the areas encompassing up to 3km and 3-5km around the mast, revealed no significant excess of these cancers in this area. P-values calculated for each respective analysis were large [all cancers excluding NMS_0-3km p=0.123; all cancers excluding NMS_3-5km p=0.356; all cancers_0-3km p=0.141; all cancers_3-5km p=0.152].

DISCUSSION

Vigilant individuals will often be concerned that a population has a higher rate of cancer than they would expect. Part of this suspicion may reflect the increasing frequency with which cancer is diagnosed in our population. This increase has several causes:

- As people live longer, they are more likely to develop diseases of old age, including cancer
- Competing causes of death, such as infection, have been controlled
- Technological advances have improved the accuracy of diagnosis, so cancer is more likely to be diagnosed when it occurs
- Lifestyle changes including the use of tobacco, increased exposure to ultraviolet radiation, and a high fat, low fruit/vegetable diet, combined with increased alcohol consumption, reduced levels of exercise and increasing levels of obesity have all increased the risk of developing cancer
- Also, there is more openness regarding cancer in society today – people are more likely to discuss their cancer and so there is an increased awareness of cancer cases in the community.

A suspected cancer cluster is more likely to be a true cluster if it involves:

i. a specific geographical area

ii. a large number of cases of one type of cancer, rather than several different types

iii. a rare type of cancer, rather than common types

iv. a number of cases of a certain type of cancer in age-groups not usually affected by that type of cancer.

It should be noted that the occurrence of several types of cancer in a group of people or a geographic area generally does not constitute a cancer cluster.

The pattern of cancers found in the vicinity of the Cranlome mast represents that which would be expected in the general population and not that of a cluster. In many cluster investigations, an initial conclusion such as this would be sufficient to halt the study, since it does not warrant further investigation. Nevertheless we felt that, in order to satisfy the intense public and media interest surrounding this issue, it was necessary to proceed to a comparison of rates between various geographical areas.

The inability of the local community to identify all alleged cases is a common finding in alleged clusters. This often results from inadvertent double counting by well meaning concerned groups. We, and the local community, were surprised to discover a total of 20 cancer cases in this small rural area (17 unknown to residents group). The data analysis, however, indicated that this was not significantly different from the expected level, based on rates at that time. This identification of all cases demonstrated the value of a complete, accurate cancer registration system. It also enhanced the credibility of the investigation with the local population.

Currently in Northern Ireland, the vast majority of cancer registrations are made within two years of diagnosis, although information on pathologically diagnosed tumours is available with only one month delay. Although very timely for a cancer registry, this lag in registration means that area investigations into recently diagnosed cases are limited.

Of particular concern to some, living in the vicinity of the Cranlome mobile phone mast, was the question of whether low level radiofrequency (RF) exposure might increase their risk of cancer. However, this study investigated the levels of cancer in an area, but not any of the alleged putative causes of the alleged cluster. It is important when investigating an alleged cluster to firstly identify whether a cluster actually exists before setting out to determine any likely causal factors.

There was extensive media coverage of the alleged cluster and the felling of the mast. There was also excited anticipation among the media for the results of this study. However, the negative findings of the study received only local media coverage and, even then, with headlines such as "Public sceptical over mast cancer findings" (Tyrone Times, May 14th 2004) and "Residents oppose mast re-erection" (Dungannon Observer, May 14th 2004).

The preparatory work involving the setting of limits for the study and including the agreement of the terms of reference, diseases and areas to be studied, is of vital importance when investigating alleged clusters. Also, because the circumstances surrounding many cluster problems are emotive, everything relating to the cluster investigation should be documented. A carefully written record of events (telephone conversations, etc.) will help to avoid disputes among the many people involved and also enables a comprehensive report to be compiled at the end of the investigation.

The results of this study were presented to an open meeting, attended by those active in raising the issue of the alleged cluster, as well as elected representatives. Official and unofficial discussions at the meeting indicated a degree of satisfaction with the study and the clarity of the presentation of its findings. A full report is available.[13]

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The authors have no conflict of interest

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A patient that changed my practice…

Careful History Taking

I work in Craigavon Area Hospital Accident and emergency (A&E) department, which is supposed to be one of the busiest A&E's in Northern Ireland. The pressure of work most of the times is immense and you've to be very quick and at the same time very precise to take right decisions.

I came across a young lady who presented with right sided upper quadrant pain for 5 days. Co-incidentally I had seen her some months ago with exactly the same type of pain. On further inquiry and obtaining the old notes I came to know that she had been investigated for gallstones with no success and the symptoms were attributed to bile duct stones. This seemed a straightforward surgical case as the patient was very dehydrated and fairly jaundiced. What else can you dream about as an A&E Senior house officer when you get a straight forward case! I rushed into the routine things and ignored the fact that patient mentioned something about 20 paracetamol tablets that she claimed to have taken in last 5 days to help pain and she vaguely mentioned her concern about the same.

The investigations came back quickly with just liver function tests (LFT) to come. Somehow I started feeling uncomfortable about the whole situation, albeit the surgical admission was already organised and patient wasn't technically mine anymore. I went back and told her I would like to know more about the details of the pain. This time I was more focussed on spending some time with the patient and getting the right history. It was only then she asked me, "Doctor, am I going to die" and I was quite surprised…. She later admitted taking 50 paracetamol tablets due to depression as she had an argument with her boyfriend. Her LFT's arrived back - grossly deranged with ALT and AST in the range of 16,000 and 14,000 respectively. The patient had to be eventually transferred to a specialist unit and she survived.

It was a good lesson for me and probably for any other doctor to make sure that quality of patient-care is not compromised for quantity.

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Paper

Outcome Following Proximal Femoral Fracture in Northern Ireland

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ABSTRACT

Objective: **To study the outcome following treatment for proximal femoral fracture in elderly people.**

Methods: **All consecutive males and females admitted to the acute fracture service at the Royal Victoria Hospital and the Belfast City Hospital for the 3 years from 1999 to 2001 were studied. The data was collected by trained research nurses. Variables gathered included age, sex, marital status, mental state, pre-injury Barthel score and the American Society of Anaesthesiology (ASA) physical status grading. The information was gathered on admission to hospital and at four, six and 12 months after the injury.**

Results: **The total number of patients studied between January 1999 to December 2001 was 2834 of whom 77% were female and 23% were male. The mean (median) length of stay in the acute fracture service was 10.7 (9 days). The mean (median) length of stay in the rehabilitation ward was 35.3 (24 days). The 30-day mortality was 6.9%, the four-month mortality 15.6 % and one year mortality 22.3 %. Of those subjects living at home at the time of fracture 68% remained at home at one year. Factors predicting successful return home were higher mental test score, younger age, female sex, higher Barthel score, better pre-injury mobility and better ASA score.**

Of those able to walk independently outdoors before injury 40% regained this ability by 12 months. Factors predicting return of pre-injury mobility were poorer pre-injury mobility, younger age, higher mental test score, better ASA category, higher Barthel score, and previous residence at home.

The proportion admitted from their own home and discharged by 56 days was 56%.

Conclusion: **The standardised measurement of outcome in hip fracture subjects enables comparison between units and facilitates improvement in standards of care available to the increasing number of elderly patients presenting with proximal femoral fracture.**

INTRODUCTION

Alongside the need to identify correctable causes for proximal femoral fracture, particularly the role of reduced bone mass, bone quality and prevention of falls, it is essential that the present care of patients presenting to hospital is appropriate and effective. Deficiencies in care have been highlighted in a number of reports.[1,2]

Proximal femoral fracture is a common condition in elderly people with 80% occurring in females. It affects 12% of women and 5% of men by the age of 85 years and carries a high morbidity and mortality.[1,3] The incidence of fracture of the proximal femur is increasing more rapidly than would be expected as a result solely of the projected increase in the elderly population.[3-7] Together these and other factors result in proximal femoral fracture occupying 25% of orthopaedic beds,1 with the attendant hospital costs further increased by subsequent community care.

The number of proximal femoral fractures in Northern Ireland between 1985 and 1997 increased faster than that anticipated due to demographic changes alone, and there is predicted to be a doubling in the number of fractures between 1997 and 2016.[8] As the unit cost of hip fracture is estimated to exceed £12,000,[9] there is a clear need to ensure appropriate use of resources in management of proximal femoral fracture. In addition to hip fracture, other fractures including Colles' fracture, vertebral fracture, humeral fracture and pelvic fracture commonly occur as a consequence of osteoporosis, resulting in a cumulative 1 in 3 lifetime risk of an adult woman having an osteoporotic fracture. The prevalence in males is also substantial with a 1 in 12 lifetime risk of suffering an osteoporotic fracture.[10] The increasing recognition of the need for collaboration between orthopaedic surgeons and

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physicians in geriatric medicine [11] has led to the development of either liaison services or orthopaedic geriatric units of varying designs.[12-18] Other innovations have included a rapid transit system [19] or use of a hospital at home nursing service.[20] Considerable differences in mortality after proximal femoral fracture have been highlighted.[21-23] Increasing attention is being paid to the need to measure and study the factors which effect outcome following hip fracture and in turn enable comparison between different services.[24-26]

There are as yet no universally agreed clinically relevant and acceptable indicators of outcome.[27,28] The Department of Health has suggested two clinical indicators namely discharge home within 56 days of admission and 30-day mortality. The National Service Framework for Older People,[29] stated as part of standard 6, that operations for fracture repair should be carried out within 24 hours of admission by experienced staff.

This study commenced in November 1997 in both the Royal Victoria Hospital and Belfast City Hospital. In November 1999 the fracture services amalgamated on the Royal Victoria Hospital site.

METHODS

All consecutive males and females with fracture of the proximal femur admitted to the acute fracture service at the Royal Victoria Hospital and Belfast City Hospital for 3 years from January 1999 to December 2001 were studied.

The clinical service is provided for a population of ~ 800,000 people from across Northern Ireland. A range of socio-demographic and medical information was collected by trained audit research nurses on admission and by telephone at four, six and 12 months after injury. The main variables used in this study are age, sex, marital status, an abbreviated mini mental state score on admission,[30] pre-injury Barthel activities of daily living score (0-20)[31] and the American Society of Anaesthesiology physical status grading (category 1 least impaired to category 5 most impaired and not expected to survive 24 hours).[32]

The principal outcome measures gathered were death, mobility, Barthel score and domicile.

RESULTS

The total number of patients admitted between January 1999 and December 2001 was 2834, of whom 2171 (77%) were female (mean age 79.9, range 18-103 years) and 663 (23%) were male (mean age 73.0, range 15-98 years).

Length of Stay

The mean (median) length of stay in the acute fracture service was 10.7 (9 days). The mean length of stay in the rehabilitation ward of the 1128 subjects transferred was 35.5 (24 days). The overall mean number of days of total hospital care was 37.8 (27 days).

Mental Score

The overall mean (median) mental score on admission was 6.6 (8) with females having a mean score of 6.5 (8) and males 7.1 (9). The proportion of patients alive at one year for each mental score value is shown (*fig 1*).

Barthel Score

The mean (median) Barthel score on admission in females was 14.6 (16) falling to 12.5 (13) at four months, then rising to 12.8 (14) at six months and 13.3 (15) at 12 months. For males the admission score was 15 (17) falling to 13.6 (14) at four months, then rising to 14 (16) at six months and 14.4 (17) at 12 months (*fig 2*).

Locomotor Disability

The proportion of patients able to walk independently outdoors pre-injury was 45% (42% in females, 55% in males), falling to 24% of those alive at six months and 28% at 12 months. 40% of those able to walk independently outdoors pre-injury (36% in females, 50% in males) regained this ability by 12 months.

Table I gives the results of multiple logistic regression analysis in order to determine the factors which predict a return to pre-injury walking ability. This indicates that there is strong evidence that patients with a worse pre-injury walking ability were more likely to regain their pre-injury score, with those who walked with company indoors or who were chair bound or bedridden being seven times more likely to regain their pre-injury status than those who previously walked alone outdoors (OR 6.9, P value <0.001). Subjects who walked with company outdoors or alone indoors were three times more likely to regain their pre-injury status than those who previously walked alone outdoors (OR 3.3, P value <0.001). Further predictors of a return to pre-injury walking ability were younger age, higher mental test score, having an ASA score of 1, 2 or 3, a higher Barthel score (all P value <0.001), and living at home, (P value <0.03). The receiver operating characteristic (ROC) area under the curve was 72%.

Multiple logistic regression analysis of the factors predicting a return to pre-injury mobility in only those initially residing at home resulted in similar findings.

ASA Score

The mean (median) ASA score in females pre-operatively was 2.77 (3) and in males was 2.73 (3). The distribution of scores is outlined in Table II. The mortality at 12 months grouped by ASA score is illustrated (*Fig 3*) indicating a mortality of 5% in ASA group 1, 12% in ASA group 2, 22% in ASA group 3, 39% in ASA group 4 and 78% in ASA group 5.

Mortality

The 30-day mortality was 6.9% (5.7% for females and 10.9% for males). The mortality at 4-months was 15.6% (13.8% for females and 21.5% for males), at 6 months was 17.6% (15.6% for females and 24.2% for males) and at 1 year was 22.3% (20.3% for females and 28.8% for males).

Surgical Management

A total of 15.6% of subjects underwent surgery in less than 24 hours following admission, 24.4% between 24 and 48 hours, with the remaining 60% greater than 24 hours. The mean (median) time to operation was 3.4 days (2.7). There were 111 patients (3.9%) who were managed conservatively without surgery.

Domicile

The majority of subjects (72%) resided at home at the time of fracture, with 3.1% in residential care and 21.7% in nursing home care. Of the 2034 subjects living at home at the time of fracture 68% remained at home at four months. After one year 68% were living at home, 20% had died, 10% were in nursing home care and 1% in residential care. Of the 613 admitted from nursing home care 43.5% (42% in females, 58% in males) had died at one year, 52% returned to nursing home care and 3% had returned home.

The proportion admitted from their own home and discharged home by 56 days was 56%.

Table III shows the results of multiple variable logistic regression analysis to determine the factors predicting a return to home for those subjects originally residing at home. They indicate that there is strong evidence that patients are more likely to return home if they have higher mental test scores, are younger, are female, or have higher Barthel scores (all P <0.001). There is also evidence to suggest that patients who are in ASA categories 1, 2 or 3 are more likely to return home that those in categories 4 or 5, and that patients with a better pre-injury locomotor ability are more likely to return home (both P=0.03). The receiver operating characteristic (ROC) area under the curve was 77%.

DISCUSSION

This study has allowed us to identify more clearly outcomes of hip fracture patients within Northern Ireland and enable comparison with other units or communities. Factors influencing recovery of pre-injury mobility in hip fracture patients included pre-injury mobility, age, mental state, ASA score, Barthel score and domicile. Similarly the factors influencing return home included mental state, age, sex, Barthel score and pre-injury mobility. The Department of Health has suggested measuring the proportion discharged home within 56 days (56% in this study) and 30 day mortality (6.7% in this study) as clinical indicators but uncertainty remains as to whether these are the most useful or relevant measures.

The **mortality** in this study for males (28.8%) and females (20.3%) at one year may be compared with those reported from the Oxford region[33] from 1984-1998 of 41% for males and 38.4% for females. The mortality in Scotland[34] at 120 days is 27% for males and 21% for females, in comparison to 24% for males and 16.9% for females in Northern Ireland.

The **mental state** influences outcome and those with a normal mental score (AMT 10/10) had a one year mortality of 9.3% in comparison to 11.7% reported from Stuttgart.[35] Those subjects with a mental score of less than 5 have a one year mortality in excess of 30%.

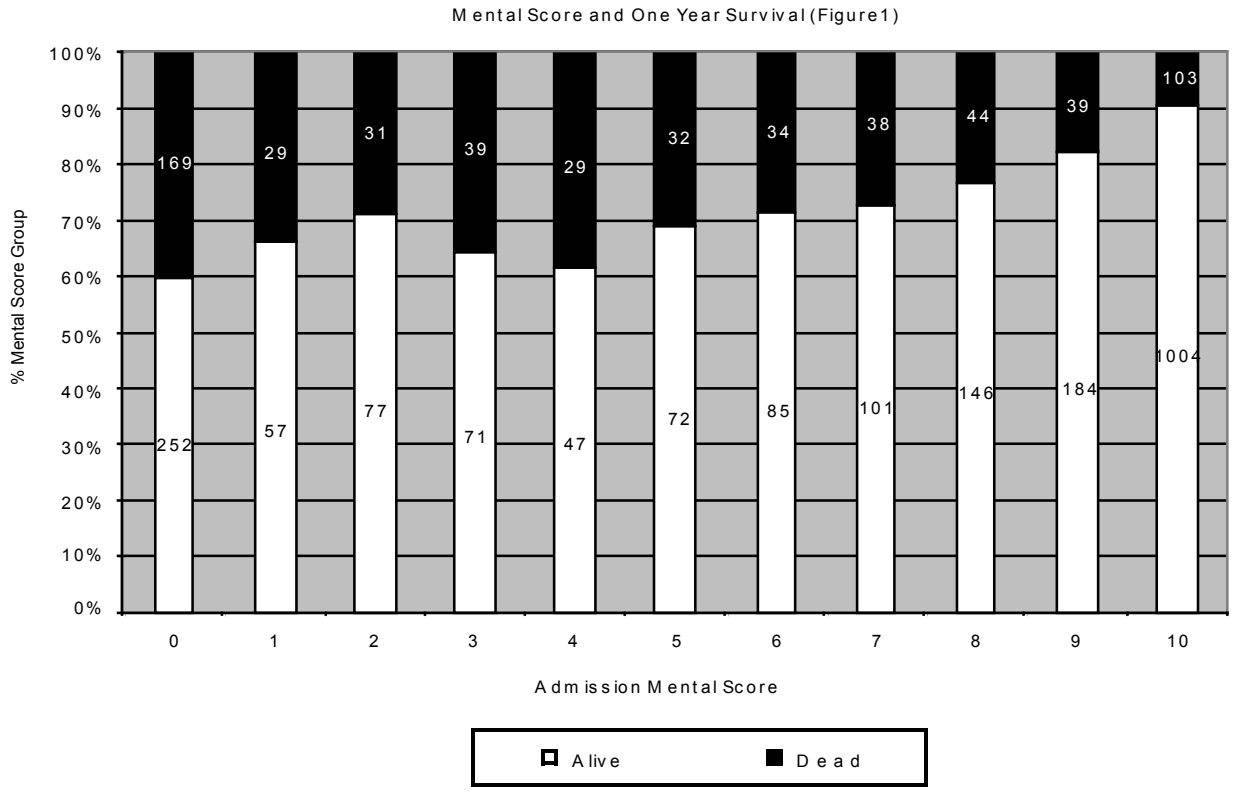

Fig.1 Mental Score and One Year Survival

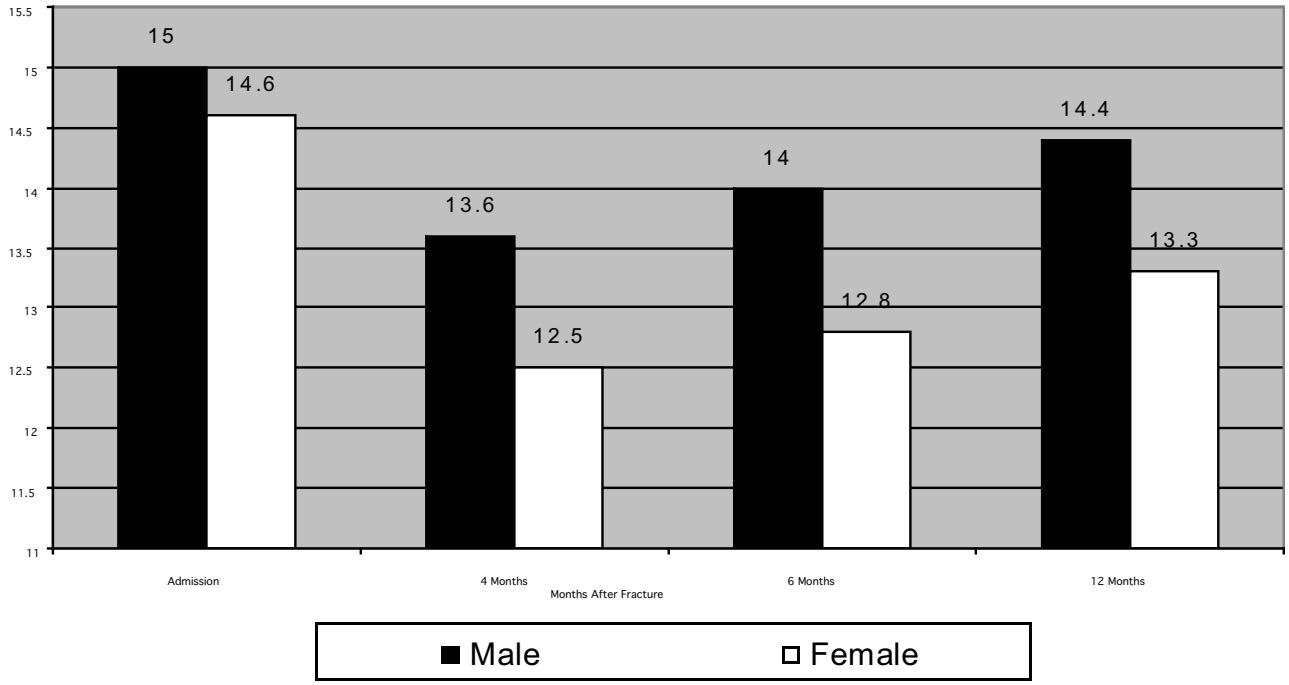

Fig 2. Average Barthel Score on Admission, 4, 6 and 12 months after Fracture.

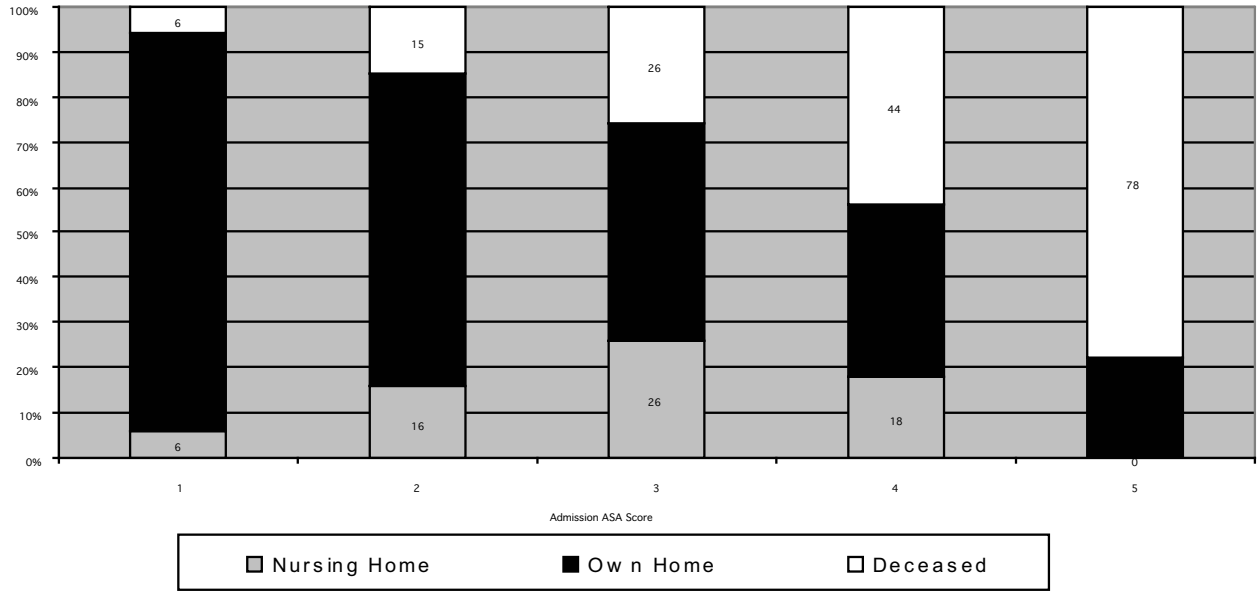

Fig 3. 12 month outcome grouped by ASA Score on admission.

Domicile is also related to outcome. Of those subjects admitted from home, for our patient group 16.8% were dead at one year in comparison to 22% in Peterborough.[36] This may be compared to the mortality rate of 17.4% recorded in community dwelling subjects aged 65 years and over in Baltimore, USA.[37]

Subjects admitted from **nursing home care** had an increased mortality at one year of 52% in males and 36% in females compared to those in Geneva, Switzerland, of 61% in males and 30% in females.[38] Interpretation of this finding may be difficult due to differences in levels of dependency and prevalence of dementia for nursing home residents in different health care systems. Of those admitted from home, by 4 months 67% had returned home, which is similar to the outcome in Scotland[34] of 68%. Interestingly 72% were admitted from home which is markedly higher than the 60% reported in Scotland. Of those admitted from home 11% were in institutional care after one year.

Mobility is an important indicator of outcome. Of those independently mobile prior to fracture, 40% regained independent mobility by one year, in comparison to 24.4% independent in walking and stair climbing in New York[39] after six months.

The **mean length of total hospital stay** of 38 days is comparable to the mean of 32 days in Scotland,[34] but remains significantly longer than the mean stay of 22 days recorded in Peterborough.[40] This figure is influenced by other aspects of care as regions may differ in the use and availability of nursing home and intermediate care facilities for on-going treatment which would not be included as hospital care.

The **ASA Score** is also an important indicator of outcome with subjects with an ASA score of 1 and 2 had a 1 year mortality of 11% as compared to those with a score of 3 and 4 whose mortality was 24%. An outcome table has been produced for males and females separately by age group (<65, 65-74, 75-84, 85+ years) and using the ASA gradings. This provides information regarding 12 month survival, which is currently used to assist in ward based discussions with patients and relatives regarding outcome. While caution is necessary in applying this population derived information to individual patients, it does provide one measure of absolute risk.

TABLE II

ASA Score on Admission (n=2834) and 12-month Mortality

ASA Score	Number	Percentage	12-month Mortality (%)
1	123	4.7%	4.9%
2	650	24.8%	11.8%
3	1582	60.5%	21.9%
4	253	9.7%	39.1%
5	9	0.3%	78%
Total	2617	100%	20.5%

The increased risk of death after hip fracture is associated with, age, male sex, poorly controlled systemic disease, psychiatric illness and institutionalisation.[41,42] These and other factors undoubtedly contribute through case-mix variations to the spread of outcomes such as the 90-day mortality rate variation of between five and 24% reported from East Anglia.[21] However, other correctible factors are likely to be contributing to improved outcome and may be amenable to change producing beneficial improvements for patients care. The standardised measurement of outcome should therefore enable comparison between units and facilitate improvements in standards of care for the increasing number of elderly patients presenting with proximal femoral fracture. This approach is currently being employed in the development of a national hip fracture registry in the United Kingdom to which Northern Ireland is contributing.

Our study has allowed us to measure outcome in a number of ways with particular emphasis on the factors influencing return to previous domicile and return to pre-injury mobility, but it has to be borne in mind that additional factors such as availability of community care schemes to support discharge home were not included in the factors analysed. We have previously highlighted the factors predicting survival and the effects of delays to surgery.[43]

We advocate the ongoing collection of mortality figures at 30 days, four months and one year and the collection of information regarding domicile, functional ability and mobility at the same time points. If a common data set is collected including information on other aspects of care, case-mix adjusted differences between units, regions or countries can be examined for the influence of either external factors (eg greater numbers of nursing home residents, increased ASA scores reflecting case-mix) or differences in the provision of care (eg time to theatre, presence of orthogeriatric care). This approach will provide a more meaningful assessment of the quality of care provided to patients who have suffered a fractured neck of femur than is possible by measuring discharge home within 56 days or 30 days mortality alone.

The authors have no conflict of interest.

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TABLE I

Multivariable logistic regression model for factors predicting a return to pre-injury locomotor ability

	Odds ratio	*Confidence intervals*	*Wald*	*P-Value*
Age (per year)	0.95	0.94-0.96	104.65	<0.001
Locomotor ability				
(WCO/WAI) versus (WAO)	3.31	2.62-4.19	99.104	<0.001
(WIC/CHR/BED) versus (WAO)	6.93	4.78-10.05	104.33	<0.001
Mental score (0-10)	1.12	1.08-1.16	35.81	<0.001
ASA (1,2,3) versus (4,5)	2.32	1.68-3.20	26.18	<0.001
Barthel (0-20)	1.06	1.03-1.09	15.84	<0.001
Domilicile (home versus other)	1.33	1.02-1.74	4.47	0.03

Abbreviation: WAO, walks alone outdoors; WCO, walks with company outdoors; WAI, walks alone indoors; WIC, walks with company indoors; CHR, chair bound; BED, bed ridden

TABLE III

Multivariable logistic regression model for factors predicting a return to home

	Odds ratio	*Confidence intervals*	*Wald*	*P-Value*
Mental score (0-10)	1.19	1.14-1.25	60.09	<0.001
Age (per year)	0.95	0.94-0.97	44.78	<0.001
Sex (male versus female)	0.43	0.32-0.56	35.14	<0.001
Barthel (0-20)	1.07	1.03-1.11	12.64	<0.001
ASA (1,2,3) versus (4,5)	1.54	1.06-2.25	5.03	0.03
Locomotor ability				
(WCO/WAI) versus (WAO)	0.70	0.53-0.91	6.90	<0.01
(WIC/CHR/BED) versus (WAO)	0.71	0.43-1.17	1.78	0.18

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Medical History

The Ulster Medical Society's Bust of James McDonnell

JI Logan

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On the 26 January 1920, Dr James Colville announced to the Council of the Ulster Medical Society that Miss Penelope McDonnell Stevenson had offered to donate to the Society a bust of her great-uncle, Dr James McDonnell. McDonnell had been one of the leading physicians in Belfast in the early 19th century and had been intimately involved in the founding of Belfast institutions encompassing literature, medicine, music, and natural history. Miss Stevenson's offer was gratefully accepted by Council and for the next 45 years the bust of McDonnell resided in the hall of the Medical Institute (later named the Whitla Medical Institute) together with two companion busts, one of William MacCormac and the other of William Whitla. The Society still owns the bust of Whitla and we know it is of marble. Unfortunately, we do not know what the other two looked like, let alone of what material they were made. We have no images of the hall or of the busts and enquiries among the older members of the Society in 1991 showed that no one could recall anything about them save that they had existed.

In the 1950s and early 1960s the Society had difficulty keeping the Whitla Medical Institute going. It was in a part of Belfast which was increasingly inconvenient to visit because of distance and parking, there were concerns over the stability of the building in consequence of previous work next door, and there was the cost of maintaining the structure and employing a caretaker. The last straw for the members came when an appeal against the Society's liability to pay rates was turned down because the Society did not qualify as a charity. It was decided that the Institute should be given up and in 1965 the building was sold by its Trustees and the contents were dispersed. Some of the *lares et penates* went to the homes of members to be looked after until the Society might again have a place of its own, while a letter dated 3 August 1965 records that "the contents of the [Whitla Medical Institute] were removed today by Osborne King and Megran and taken to their auction rooms."

In a letter of 8 July 1965, the Society offered the Medical Staff Committee of the Royal Victoria Hospital "a bust of the late Dr McDonald [sic], who was one of the founders of the Society", with the suggestion that if the Staff Committee did want the bust they should arrange to collect it "some time this month." The Honorary Secretary of the Staff Committee replied on 5 August 1965 thanking the Society for "the bust of the late Dr McDonald, which they very kindly presented to the hospital." The minutes of the Staff Committee for September 1965 record the offer and the acceptance and also a suggestion that Mr Spence and Dr Allison should decide where the bust should be placed. However, despite this correspondence and planning, the bust vanished—how, when and where is unknown—and it has not been seen since. An effort was made in 1991 to trace it. Enquiries were made from the trustees of the Institute, the purchaser of the building, the auctioneers, the Society's solicitors, the hospital administration, and other interested persons, and all drew a blank. Could it be in a storeroom somewhere? or in somebody's attic?

The bust of William MacCormac was similarly offered to the Department of Surgery, Queen's University of Belfast, and it too has vanished. There is a bronze bust of MacCormac in the Office of Archives, Royal Victoria Hospital, but it has not been possible to establish whether it was the one which once belonged to the Society.

In 1937, Dr Robert Marshall gave to the Royal Victoria Hospital a bronze copy of a bust of McDonnell (fig 1). The marble original, signed C Moore and dated 1844, had belonged to the Belfast Natural History and Philosophical Society although it is now on permanent loan to the Ulster Museum. It had been displayed in the Belfast Free Public Library in Royal Avenue, Belfast, for some years before the opening of the new Museum buildings in the Botanic Gardens in 1929. The earlier history of the bust is obscure. Christopher Moore was born in Dublin in 1790 and died there in 1863 but he spent most of his working life in London where he exhibited portrait busts at the Royal Academy almost every year from 1821 to 1860. It is known that he exhibited a marble bust of "James McDonnell Esq., M.D., Belfast" in 1842, but obviously this was not the 1844 bust in the Ulster Museum.

James McDonnell's grandson, Robert, was a surgeon who served in the Crimean war and later became President of the Royal College of Surgeons in Ireland. He settled in Kilsharvan House, County Meath, where his descendants continued to live until recently. At one time Sir Peter Froggatt had been asked to deal with family papers relating to James McDonnell and his son, John. John McDonnell, also a surgeon, was Robert's father and the first person in Ireland to use inhalation anaesthesia. Before the house was sold, Sir Peter was asked if he would accept a number of items, one of them being a bust of James McDonnell which had stood in the hall at Kilsharvan for many years. This bust (fig 2), made of marble and signed C Moore but dated 1841, is identical in appearance to the one in the possession of the Ulster Museum. Ownership has now been transferred to the Royal Victoria Hospital.

It is unlikely that McDonnell would have asked more than one artist for a portrait bust, and it is unlikely that he would have sat more than once for Moore. It is likely, therefore, that the missing Ulster Medical Society bust was identical

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Fig 1. *The Royal Victoria Hospital bronze copy of the marble bust of James McDonnell dated 1844 in the possession of the Ulster Museum.*

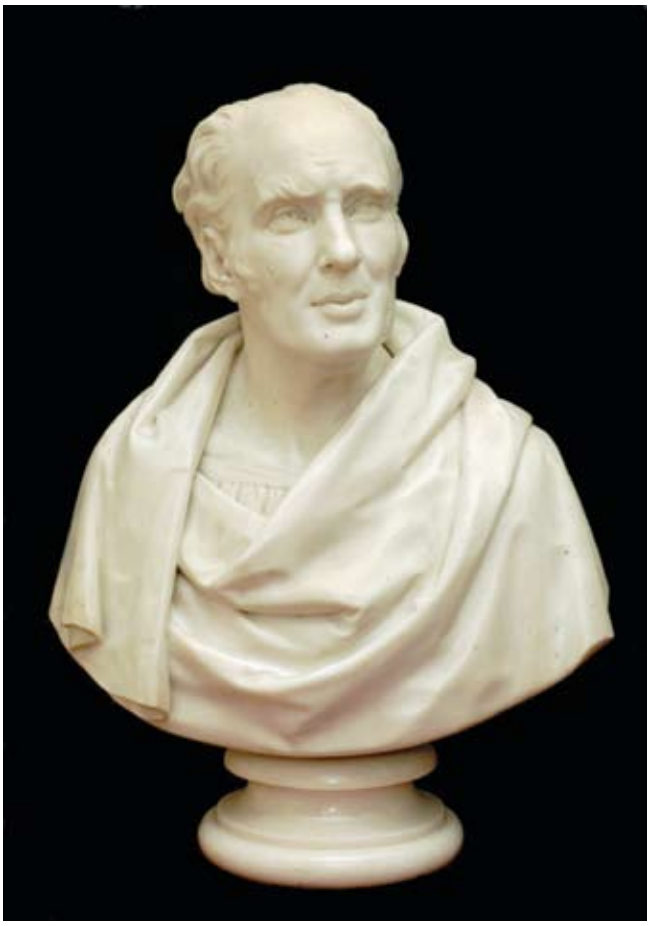

Fig 2. *The Royal Victoria Hospital marble bust of James McDonnell dated 1841 which came from Kilsharvan House.*

in appearance to the Ulster Museum and Kilsharvan busts. It was not technically difficult to make identical copies. The sitter would initially have been modelled in clay. This original would then have been used to make a plaster copy and the clay would have been beaten up and reused. The sculptor could then carve one or more marble copies as required, using the plaster model as a guide and checking the accuracy with a pointing device. It is possible that the Kilsharvan bust was the original bust, and that after its exhibition at the RA in 1842, copies were made for other branches of the family. Certainly the Kilsharvan and Ulster Medical Society busts once belonged to McDonnell family members and perhaps the Ulster Museum bust did too.

There is no question of blame but it is extremely unfortunate that the Society's busts of James McDonnell and William MacCormac should have been lost. It may not be possible now to retrieve them but the Society would welcome any information as to their whereabouts. The Society would also welcome information on any other item of historical interest including minutes books, transactions etc, etc.

ACKNOWLEDGEMENTS.

I am grateful to Mr Martyn Anglesea, Professor Richard Clarke and Sir Peter Froggatt for supplying much of the information on which this paper is based and for their helpful reviews and criticism; and to the Royal Victoria Hospital and its Department of Medical Illustration for the images of the busts.

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Medical History

The 200th Anniversary of the founding of the Belfast Medical Society

From a toast at the Ulster Medical Society Presidential Dinner, in the Great Hall, Queen's University Belfast, Friday 3rd March 2006

David R Hadden

Accepted 14th May 2006

In 1806 Belfast was a small town at the mouth of the river Lagan, with a population of about 20,000. The population of Ireland at that time was about 5.5 million, which is very similar to the population of the whole island today, so the influence of Belfast and its citizens would have been proportionately much less than now. There was no general hospital (the small fever hospital had opened in Berry Street in 1797 with only six beds, which was the predecessor of the Royal Victoria Hospital). There was no University or Medical school. The Belfast Charitable Society in Clifton Street was the only public charity with a health aspect, providing a dispensary service from the same building that survives to this day. The only grammar school was the Belfast Royal Academy, established in 1786 in Donegall Street, which in 1806 had 120 day boys and 60 boarders. The first intimations of what was to become the Royal Belfast Academical Institution in 1810 were being voiced, but education for women would have to wait until Mrs Margaret Byers opened her school in 1859, which later became Victoria College.

The social scene was set by the 2nd Marquis of Donegall, who lived in his town house at the top of what is now Donegall Place, and maintained a small country seat in Ormeau Park – he was deeply in debt, but exhibited a suitably aristocratic nonchalance and was generally popular. The industrialization of Belfast was yet to come – there were a few small dry spinning mills but most of the linen manufacture was by hand loom in the countryside. Shipbuilding had just started in Ritchie's dock, in a small way, and the Clarendon dry dock (which still survives) had just been opened, both on the other side of the river from what became Queen's Island. In political terms King George III was on the throne, and the Act of Union had been passed in 1800 so that Irish government had centralized to Westminster following the problems of 1798. The Battle of Trafalgar in 1805 had established British naval superiority, but the fear of Napoleon was still alive. The Napoleonic code of legal statutes was in process of development in France, to become the foundation of the present day European Law – perhaps in some ways Napoleon did win, in spite of Waterloo!

The origins of the Belfast Medical Society have been carefully recorded by Dr Andrew Malcolm, and are worth reading in full.

BELFAST MEDICAL SOCIETY

"The Physicians and Surgeons of Belfast, in 1806, though only nineteen in number, were actuated by the same spirit for mutual improvement in their common profession, which has ever distinguished the most celebrated seats of medical science. We are proud to think that, at so remote a period, the practitioners of Belfast aimed at something more than independent efforts for professional distinction. When men united, as they did, for the purpose of affording to each an equal opportunity of obtaining professional information, so far as it can be obtained from a re-union, by the contributions of all, the true spirit of professional advancement is theirs.

It is mentioned in the records of this date, that the most respectable physicians, surgeons and apothecaries, not merely of the town, but of the vicinity likewise, soon became enrolled under the designation of "THE BELFAST MEDICAL SOCIETY". The annual subscription was fixed at one guinea, and the selection and purchase of books etc, were entrusted to an elected Committee. It is to be remembered, as a feature of this early institution, that among the members, were included, by an original resolution, several gentlemen not belonging to the profession, who were nevertheless, desirous of expressing their approval of its objects. It was also an original intention to form a collection of anatomical preparations, as an additional attraction to the Library. The following members formed the first Committee:- SS Thomson MD, President; William Haliday MD, William Drennan MD, Robert M'Gee MD, Robert M'Cluney, Surgeon; Andrew Marshall, Surgeon, Secretary and Treasurer.

A record of this Society is preserved up till the year 1814, during which Drs Haliday, Thomson, Drennan and M'Cluney were successively Presidents; and Drs M'Cluney, A Marshall, R M'Gee

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and SS Thomson, in like manner, filled the united offices of Secretary and Treasurer. Subsequently, it would appear, the affairs became neglected, in consequence of serious differences of opinion among the Hospital attendants, who were then the main supporters of the Society. The demon of discord invaded its ranks, and a dissolution soon ensued. It was, at first, contemplated to dispose of the property, which chiefly comprised valuable donations from Dr Drennan and Dr William Haliday, among the members; but, this being over-ruled, the books were returned to the donors. After a little time, principally through the influence of the late Dr Stephenson, the volumes were replaced; notwithstanding, for a period of four years after the Society ceased to exist. The original spirit which prompted to the formation of the Society, did not, however, entirely expire. The name of Dr R Stephenson is here associated with the revival of the Society, in 1822, in connection with those of Dr Forcade, Mr Moore, RN and Dr M'Donnell. These four – only one of whom, as respected President, survives at the present day – met together on the 8th May of that year, and formed the nucleus of the present Ulster Medical Society. Before the year expired, the following gentlemen became enrolled as members, viz:- Mr Bryson, Mr M'Cleery, Dr Coffey, Dr M'Kibben, Dr Haliday, Dr Young and Mr Mawhinney. From this time forward there were continual accessions to its ranks, which have been gradually extending, up till the present day.

The unfortunate circumstance, to which we have briefly alluded above, must certainly be deemed a blot upon our medical annals; but it is consolatory to know, that one at least of the members of the original Society heartily co-operated with the projectors of the renewed Association, to wipe away the stain. We allude to the late Dr SS Thomson, whose position among his professional brethren was ever so exalted and endearing, that we agreed, during the latter part of his active life, when his years also gave him a claim to the appellation, in designing him "the father of the profession".

AG Malcolm. *The History of the General Hospital, Belfast 1851.*

Because the original minute book is no longer available (is it possible that Dr Malcolm did not return it after writing his history?), it is not possible to identify all of the 19 original doctors who founded the Belfast Medical Society. With the assistance of Professor Richard Clarke, some information is available for six of them, and three have portraits. These six were relatively young, and all held responsible medical positions in the fledgling town of Belfast. Five, at least received their medical education in Scotland, mostly in Edinburgh, so some thoughts on the background to Scottish medical thinking at the end of the "Scottish Enlightenment" may not be inappropriate.

Dr Samuel Smith Thomson (1778-1849) came from Coleraine (*Fig 1*), and received his MD Edinburgh in 1800 with a thesis on measles. In 1806 he was aged 28, and was the first President of the new Society. He was physician to the Belfast Fever Hospital, and subsequently to the Belfast Lying-In Hospital and the Belfast Lunatic Asylum: his broader interests included the foundation of the Anacreontic Society, subsequently the Belfast Philharmonic Society. In later life he was presented with a gold snuffbox inscribed by his colleagues, and was considered to be "the father of the profession". His portrait still hangs in the Board Room of the Royal Victoria Hospital. His memorial in the First Presbyterian Church, Rosemary Street, Belfast records *"As a physician he deservedly rose to the highest eminence and was looked to by all his brethren as their friend, their adviser*

Fig 1. Dr Samuel Smith Thomson (1778 - 1849), Royal Victoria Hospital, Belfast.

and the zealous supporter of their honour and their rights. In all his charities he was generous, in all his principles liberal. Deeply impressed with religious feeling, his character was marked by faithfulness and affection in his friendships, by sincerity and candour in his opinions, and by courtesy and gentleness to all".

Dr William Haliday (1763-1836) was aged 43, and had received his MA in Glasgow followed by MD in Edinburgh in 1786, with a thesis on Electricity in Medicine. He had practised in Newry (which was then a larger town than Belfast), and was associated with his uncle, Dr Alexander Haliday, who was active in liberal politics in Belfast at the end of the 18th century, including the Volunteer conventions. In 1806 he was physician to the Belfast Poor House.

Dr William Drennan (1754-1820) was the oldest founder member, (*Fig 2*) aged 52: he had also studied in Glasgow and Edinburgh, qualifying MD Edinburgh in 1778 with a thesis on febrile convulsions. He had practised in Belfast, Newry and Dublin, and eventually retired in 1807 to live with his sister Martha McTier in the country house still called Cabin Hill, in Knock. He had been a founder member of the United Irishmen, was tried for sedition in 1794 but acquitted, and later was one of the founders of the Royal Belfast Academical Institution. Among other reminiscences is one in a letter to his mother from Edinburgh "to be a student of medicine is a term of contempt, but to be an Irish student of medicine is the very highest complication of disgrace". The Ulster Historical Society blue plaque on the building adjacent to Rosemary Street Church tersely states *"Dr William Drennan, Patriot and Radical, born in the manse on this site".*

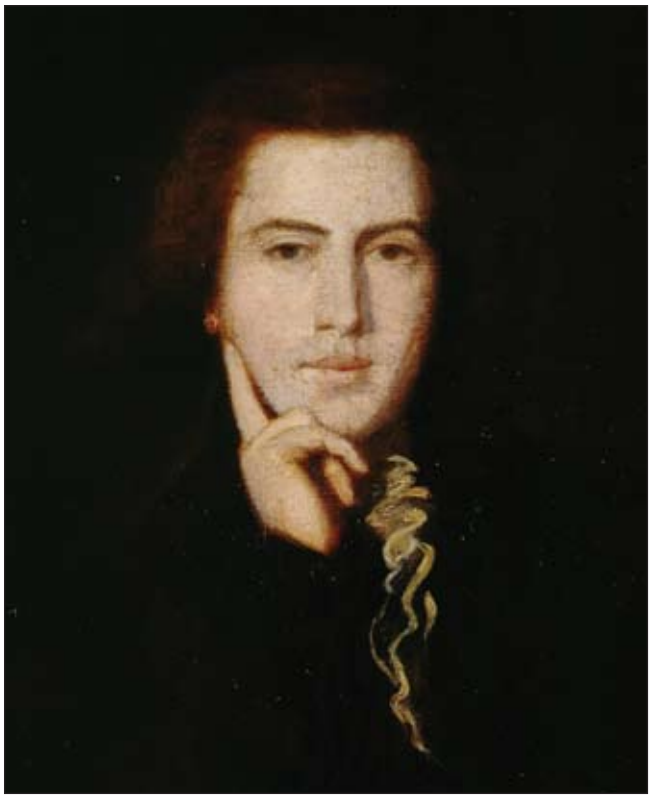

Fig 2. Dr William Drennan MD, 1754-1820. (Artist Robert Home,1752-1834). Photograph © National Museums Northern Ireland 2006, reproduced with the kind permission of the Trustees of the National Museums Northern Ireland. Collection Ulster Museum, Belfast.

Dr Robert M'Gee (1766-1842) was age 40 in 1806: he had studied medicine at Glasgow, eventually obtaining the CM degree in 1821. He was in general practice in Lancaster Street in 1810, and later Physician to the Belfast Charitable Society.

Dr Robert M'Cluney (1768-1837) was one of the founding surgeons of the Belfast Fever Hospital in 1797, and remained on the staff until 1828. He was aged 38 in 1806, and was one of those whose name is inscribed on the gold snuffbox presented to Dr SS Thomson in 1834.

Dr Andrew Marshall (1779-1868) had a more unusual training, initially as a surgeon's mate in the Royal Navy, becoming a surgeon in 1802. He then took the LRCP Edin. In 1804 and in the same year the Licence of Apothecarys Hall, Dublin (LAH). Eventually he took the MD Glasgow in 1834. He practised initially as an apothecary at 98 High Street, Belfast. After return to the navy, where he was present at the capture of the island of Heligoland in 1807, he became surgeon to the Belfast Fever Hospital (1807-1828) and a moving force in the building of the new General Hospital in l817. His portrait is also in the Board Room, Royal Victoria Hospital (*Fig 3*).

An interesting sidelight on these founding fathers of the Belfast Medical Society is that most of them are buried in the Clifton Street graveyard – perhaps a necessary qualification for ultimate historical recognition. But they must all have been influenced by the Scottish enlightenment, which perhaps encouraged some of them in their more liberal views. They would have known the writings of Frances Hutcheson (1694-1746), from Drumalig and Saintfield in County Down, whose System of Moral Philosophy and doctrine of happiness underlay much of the enlightened thought: he had been Professor of Moral Philosophy in Glasgow from 1729, and is remembered now for his concept of "the greatest happiness for the greatest number". The critical, even atheist, views of his philosophical successor in Edinburgh, David Hume, would have caused more theological concern in the Belfast of the day, but perhaps the greatest and most lasting influence was from Adam Smith (1723-1790), whose iconic writings on what became the science of economics continue to support the concept of the "free market". We are well advanced in medicine nowadays in what he called the "division of labour" – which we call specialization. He foresaw capitalism, with all its problems; "we become buyers and sellers, customers and suppliers, eventually some people do nothing at all but think about improvements – philosophers, teachers, and professional managers of every sort". He made his name by accurately forecasting the loss of the American colonies due to inept central government in London. Today we would agree that "the important beneficiary of the free market is not the businessman but the consumer" – that is if there still is a concept of a free market in medicine, in which case the consumer is the patient.

Thirty years ago Professor DAD Montgomery had entitled his presidential address "The Ulster Medical Society – Quo

Fig 3. Dr Andrew Marshall (1779 - 1868). Royal Victoria Hospital, Belfast.

Vadis". I have begun, as he did, with the 19 Ulster doctors recorded by Malcolm who got together for their professional benefit. They had problems in working together, and perhaps their exposure to the thoughts of the Scottish enlightenment encouraged them in their individuality. Ultimately we all have become specialized, but in Desmond Montgomery's words – *"if our society is to realise its potential as a unique integrating force in medicine it must continue to provide a platform where clinician and specialist can communicate with each other..... it must remain an active, integrated, eclectic society concerned with and informed of all aspects of medicine as it is practiced today. If we are truly men and women of vision..... of integrity..... of dedication, we shall not fail to hand on a Society worthy of those who will follow us. It is to them that we pledge ourselves tonight".*

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Medical History

Two Hundred Years of Midwifery 1806 – 2006

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The Belfast Medical Society – a forerunner of the Ulster Medical Society – was founded in 1806. Following the Act of Union, in 1801, Ireland lost its own Parliament but Dublin remained the administrative capital of the country. Indeed, at that time, many regarded Dublin as the second city in the Empire. It was only natural that all the seats of learning – University and College – had been established there. Dublin University (Trinity College) had been granted a Royal Charter by Queen Elizabeth I in 1593. However, a medical school was not established in the college until 1711.[1] The College of Physicians in Ireland was granted its Charter by King Charles II in 1667. In the reign of William and Mary in 1692, it was granted another Charter which enabled it to grant licences in Medicine and Midwifery.

The College of Surgeons was granted its Charter by King George III in 1784. It appointed its first Professor of Midwifery in 1785. It was not until 1828 that the College established a Diploma in Midwifery and one in Diseases of Women and Children. In 1745, a Charter was granted to the Society of Apothecaries which enabled its officers to control the manufacture and sales of medicines in Ireland. In 1837 a School of Medicine was established.

The paper has been divided into four main sections:

1. What was the State of Midwifery in 1806?
2. Developments from 1806 - 1921 when Northern Ireland was established.
3. Developments from 1921 - 1948 when the National Health Service started.
4. Developments from 1948 - 2006.

WHAT WAS THE STATE OF MIDWIFERY IN 1806?

In Wilson's Almanac of 1775 in Dublin there were 112 registered physicians and surgeons.[2] Only 12 were licensed to practise midwifery. In 1770, lectures in Midwifery for medical students and midwives had commenced in the Rotunda Hospital. There are no details of the content of either the lectures or the numbers who attended.

Physicians were the only medical practitioners to have even a smattering of scientific training. Surgeons and apothecaries received their training as apprentices. Regulations as regards qualifications and the right to practise were rarely enforced.

The position of obstetricians ("men midwives") was even poorer. Midwifery was looked upon by physicians as totally beneath their high calling. In case of difficulty they were sometimes called in consultation, but as they had never studied the subject, their advice was of little use. The situation for midwives was even worse. In 1692 the College had been empowered to examine and license midwives. In the following 50 years only four had been granted a licence to practise. Indeed in 1753, the College issued a statement in which they refused to license in medicine any person who practised midwifery. Midwifery was learned the hard way – both for the patient and attendant. A few doctors went abroad to study the subject.

Bartholomew Mosse (*fig 1*) studied the subject in Holland and France. His friend Fielding Ould studied in Paris. Ould obtained a licence from the College of Physicians to practise midwifery. In 1769 he delivered the Countess of Mornington,

Fig 1. Bartholomew Mosse.

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near Dublin when she was returning from a holiday in the family home in Belvoir Park, Belfast. The baby, a boy, later became the Duke of Wellington, the victor of the Battle of Waterloo. After he had been knighted for his services to the Countess he applied to Trinity College to be examined in Medicine. The authorities of Trinity and the College of Physicians had an agreement not to award a degree in Medicine to one who practised Midwifery! After acrimonious negotiations, both Trinity and the College eventually awarded him a degree in Medicine.

Pregnancy was regarded as a normal event so no special attention had been given to pregnant women during the antenatal period and in labour. When Mosse returned to Dublin in 1742 he was horrified at the conditions in which poor pregnant women lived, were delivered and reared their children. He wrote "Their lodgings are generally in cold garrets open to every wind, or in damp cellars subject to floods from excessive rains; themselves destitute of attendance, medicines and often proper food; by which hundreds perish with their little infants and the community is at once deprived of mother and child."

He immediately decided to help. He collected money from friends and opened, in 1745, the Dublin Lying–In Hospital in Great George's Street. It contained facilities for twelve beds. This was the first lying-in hospital in Ireland and the second in the British Isles – the forerunner of Queen Charlotte's had been opened in London in 1739. In 1787 he had collected sufficient funds to open a larger hospital, still known today as the Rotunda Hospital, a name taken from the Concert Hall built in the grounds of the hospital and used as a source of income for the hospital.

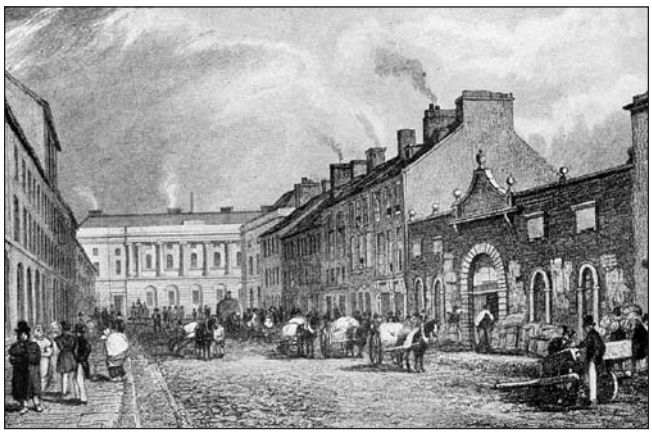

Fig 2. Lying-In Hospital – Donegall Street.

In Belfast conditions for pregnant women were the same as in Dublin. In contrast to the work of Mosse and his friends, doctors did not take part in the establishment of the first lying-in hospital. The suggestion to provide one had been made by the Revd John Clark, then a curate in St Anne's Church. A charity called "The Humane Female Society for the Relief of Lying-In Women" was established at a meeting in the Linen Hall in 1793. The original 180 members subscribed 10s 6d each per year. A house, 25 Donegall Street, (*fig 2*) was rented. It held six beds for patients. It opened in 1794. During 1803, sixty three women were delivered. The resident staff was a midwife and a maid. If difficulties arose the midwife had permission to call in a Dr Stephenson for advice.

DEVELOPMENTS FROM 1806 – 1921

In 1806 all pregnant women were delivered at home except the few who were admitted to the lying-in hospitals in Dublin and Belfast. The majority were delivered by 'handy-women' – ladies who had no training but had learned from older women or their own experiences of pregnancy and labour.

The population of Belfast increased dramatically – due to the ravages of the famine during the 1840's in the West and South of the country. In addition, there was rapid industrialisation in the City with the development of a cotton manufacturing industry, followed by the linen industry – both employing mainly female workers. At the same time there was also a rapid development in shipbuilding, which, of course, employed men.

In 1806 the population was 22,000. There were 19 doctors[2] in the city. In 1831 the population was 50,000 while in 1881 it had risen to 100,000. At the end of the century it was 348,180.[3] This rapid expansion led to gross overcrowding which in turn led to a series of epidemics with a very high mortality.

The Rev W M O'Hanlon's letters in the Northern Whig drew attention to the deplorable conditions of the poor who inhabited the back streets, courts and alleys of the rapidly expanding and populous town. The letters were later published in a book.[4] In that year (1882) Dr Andrew Malcolm[5] read a paper to the British Association which was holding its meeting in Belfast. He gave proof of the connection between filth and fever. He reported that in the epidemic during 1847, 70% of the homes deficient in sewerage had fever while in those with such facilities only 19% had the problem. He calculated that in 1852 the average age of death in Belfast was nine years because infant mortality was absolutely excessive. It was in these homes that women were delivered.

Developments in the Speciality

The establishment of lying-in hospitals stimulated interest in and research into the care of pregnant women and drew attention to the necessity of improvements in the practice of Midwifery.

The first development was the result of work carried out by a doctor from Northern Ireland in Paris, and later in Dublin. John Creevy Ferguson was born in Tandragee, Co Armagh in 1802. His father, an apothecary, moved to Dublin to enable his family to have a better life. The boy was educated in Dublin and enrolled in the Trinity Medical School from which he graduated in 1823. In that year, he went to Edinburgh with his friend William Stokes for one year and then went to Paris for another year.

In 1816, Laennec had invented the first stethoscope. Ferguson met him and his colleague de Kergardac. The latter invited him to listen to the abdomen of a pregnant patient in anticipation of hearing the fetus splash in the liquor. Instead he heard the fetal heart. Thus, Ferguson was the first person from the British Isles to hear the fetal heart. He returned to Dublin. He commenced practice as a physician but demonstrated the

use of the instrument to colleagues in the Rotunda Hospital. It was immediately introduced into the routine work in the hospital. In 1833, Evory Kennedy, while Master of the Rotunda, published his experiences of fetal auscultation. Many readers believed that he had introduced the stethoscope into obstetric practice!

Fortunately, Ferguson[6] had read a paper to members of the Association of Fellows and Licentiates of King's and Queen's College of Physicians in Ireland in November 1829. In the paper he described the use of the stethoscope in three women to confirm the diagnosis of pregnancy. He was appointed in turn Professor of Medicine in Apothecaries Hall 1832, Professor of Medicine in Trinity College in 1846 and finally moving to Belfast in 1850, he became the first Professor of Medicine in the new faculty of Queen's College. In 1862 he became the first President of the Ulster Medical Society which had been formed by the amalgamation of the Belfast Medical and the Belfast Clinical and Pathological Societies.

Professor JHM Pinkerton[7] extensively researched the life and work of Professor Ferguson. He found a photograph of Ferguson in the College of Physicians in Dublin. At the conclusion of his lecture to the Society he presented a photograph of Ferguson to Dr Margaret Haire, the then President, for display in the Society Rooms.

Intermittent fetal monitoring using the fetal stethoscope has now been used for many years during antenatal examinations and regularly during the course of labour. Irregularities in the heart rate were regarded as a sign of fetal distress. Recently its use in practice has been replaced by ultra-sound studies.

The second development in the diagnosis of pregnancy also took place in Dublin. William Featherstone Montgomery (*fig 3*) was born in Dublin in 1797 and died there in 1859. In 1829 he had been appointed as the first Professor of Midwifery in the College of Physicians, Dublin. He was an extremely able doctor and was twice elected President of the College. Despite this, little was known about him by local obstetricians until 1958 when the American Medical Historian Harold Spreet, included the life of Montgomery in his book "Obstetric and Gynaecological Milestones".[8] This stimulated Professor J B Fleming[9] to seek further information about him. These findings were later published.

Fig 3. Professor WF Montgomery

Before the development of biological and biochemical tests for the diagnosis of pregnancy the doctors only means of assessment were the interpretation of the various body changes which the pregnant state produced. A series of such signs were named after various authors, for example, Hegar, Braxton Hicks, Jacquemier etc. Breast changes in pregnancy were first adequately described in English by Montgomery in his book 'An Exposition of the Signs and Symptoms of Pregnancy' published in 1837.

In the book, Montgomery[10] produced seven coloured drawings of a patient's breasts from the third until the ninth month. The patient permitted an artist to do this at each visit. With each drawing, Montgomery wrote a long description of the changes from previous months. The change in colour from a delicate pink to a deep red in the areola was noted. He also pointed out that a regression in the colour change was due to an intra-uterine death.

Montgomery did not have an attachment to any of the well known Lying-In Hospitals. Although the fetal stethoscope was in common use in Dublin he did not refer to it in his book. His method could not compete with it and soon fell into disrepute. He had been honoured by noting the colour changes in the areola during pregnancy but today is only remembered for the presence of Montgomery's Glands – sebaceous glands – in that part of the breast.

His great grandson was the late HL Hardy Greer, for many years senior obstetrician and gynaecologist in the Royal Hospitals, Clinical Lecturer in Queens and Council Member of the Royal College of Obstetricians and Gynaecologist in London. He was also the first assessor of Maternal Deaths in Northern Ireland. The first specialist staffed maternity hospital in Downpatrick was named Hardy Greer House in his honour.

Further Development in the Service

The hospital in Donegall Street soon became too small. In 1830 a larger hospital having 18 beds was opened in Clifton Street, (*fig 4*) built on land owned by the Belfast Charitable

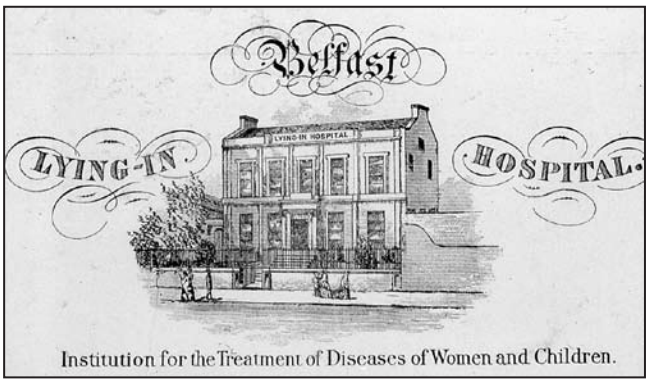

Fig 4. Lying-In Hospital – Clifton Street

Fig 5. Belfast Incorporated Lying-In Hospital – Townsend Street.

Society. In 1837 Dr Burden (later Professor) replaced Dr Stephenson.

The next milestone was the passage of the Poor Law Act in 1838.[11] One hundred and thirty "Unions" were created in Ireland. Each was managed by a Board of Guardians. In each Union a workhouse to accommodate paupers was built. These were built to a definite plan to house 200 to 1,000 paupers. The Belfast Workhouse held 1,000 people – men, women and children. Obviously a small number of pregnant destitute women were delivered in these institutions.

At this time there were many dispensary doctors in the Province who were employed by various bodies. In 1862 the Charities Act was passed. This led to the establishment of 180 dispensary districts in the Province. All these were managed by the Boards of Guardians. A dispensary doctor and midwife were appointed in each district. The doctors duties were to care for the poor and destitute while the midwife was expected to deliver the poor pregnant women.

In 1898 local councils – urban and rural were established. They were empowered to offer ante-natal care to all pregnant women. These midwives did not undertake any deliveries. In 1921 only 21 of the 64 councils now comprising Northern Ireland offered this service. Many women had to pay 'handy-women' or a midwife to care for them in labour.[12]

There was a gradual development in hospital deliveries. The Lying-In Hospital in Clifton Street became too small. In November 1904 it transferred to a larger hospital with 28 beds in Townsend Street, now known as the Incorporated Belfast Maternity Hospital (*fig 5*).[13] In the Union Infirmary Ward 11 was reserved for pregnant women. In time this became too small so a dedicated maternity hospital "Ivy Cottage" together with a nurses home was built adjacent to the Infirmary. The unit contained 30 beds.[14] A small unit – St Mary's Maternity Hospital opened in 1912 in Londsdale Terrace as part of the Mater Infirmorum Hospital. It closed early in the First World War and the beds were used for injured soldiers returning from France.[15] In 1912 only 8% of deliveries took place in hospital in the Belfast area.[16]

Caesarean Section was rarely performed. In 1816 Dr Todd performed the first operation in the Rotunda Hospital on a Mrs McClarey from Loughbrickland, Co Down. The baby survived but the mother died. In 1829 Dr McKibben performed the operation in the Belfast Lying-In Hospital. The antero-posterior diameter of pelvic brim was only 1½ inches. No anaesthesia was used. The baby was still born and the mother died seventeen hours later. In 1849 Dr John Campbell, Medical Officer to the Lisburn Infirmary performed the operation in the patient's home – described as a wretched cabin – near Dromara. Chloroform was used. Simpson of Edinburgh had only reported its use in obstetrics in 1847.[17]

The use of the obstetric forceps is always associated with the Chamberlain family in England. They always performed the delivery under a sheet so that no one could see the procedure! Many Irish obstetricians had their own special forceps made. None are in use except the Neville axis traction handle which fitted on to the Barnes forceps. The handle was necessary during a high cavity operative delivery. The operation has been abandoned and in such situations delivery is now effected by Caesarean Section. The axis traction handle is still in use in a low cavity forceps delivery. Neville, an Assistant Master in the Coombe, introduced his handle in 1886.[18]

Feeding of the infant using cows milk was attempted in the 18th Century. Frequently, the milk supplier had diluted the milk, which again was diluted by the attendant, so the calorie count was low on many occasions! Attempts were made to make artificial teats from linen, leather or sponge – all fertile fields for bacteria! The milk was not pasteurised and frequently it contained the bovine tuberculous organism.

Breast feeding has always been a problem but at this time before the introduction of the modern artificial milk feeds, the inability of a mother to breast feed regularly led to the death of the baby. In each annual report from the lying-in hospital an appeal was made to other mothers to act as a wet nurse for such infants.

Development of Medical Education

In 1835 a medical school was established in the Royal Belfast Academical Institution (INST).[20] Professors were appointed to various faculties. Dr Little was appointed as Professor of Midwifery. The school closed in 1849 and students transferred to newly opened Queen's College. Dr Burden[13] was appointed to the Chair in 1840 and moved to the Queen's College in 1849. Burden had a junior attachment to the Lying-In Hospital. He was succeeded by RF Dill in 1867. He retired from the Chair in 1893. Prior to his appointment, Dill had resigned from the staff of the hospital so he taught his students practical midwifery in the patients homes and gave his lectures in his own home. He was succeeded in 1893 by Professor JW Byers. Prof CG Lowry succeeded him in 1920.

There was a marked antipathy to training of medical students in midwifery. Three students attended the lying-in hospital in 1854. In the following year members of the Charitable Society did not approve and demanded rent from the hospital committee. The hospital had been built on land owned by the Society in Clifton Street. The Bishop of Down and

others withdrew their annual subscription and in turn the Management charged both Professor Burden and the students fees for the use of the facilities!

In 1852 an ordinance of the University had shown a standard of training which was higher than that demanded by the General Medical Council today. The General Medical Council was established in 1858. In 1886 the Council made it compulsory for students to be proficient in midwifery. The present rules were adopted in 1906. All Universities in Ireland award the degree of Bachelor of the Art of Obstetrics (BAO). The degree is not registered by the General Medical Council.

The Training of Midwives

Professor Burden attempted to train midwives in the hospital. He invited a Mrs Hamill to the hospital – to attend on the same terms as a medical student. In addition he arranged to give her extra tuition on a one to one basis.

The Obstetrical Society was founded in London in 1870.[14] This body conducted examinations and issued certificates of proficiency in Midwifery until 1905 when it was replaced by the Central Midwives Board. Pupil midwives had to travel to London to take this examination. In April 1901, in Ireland, a Code of Training was laid down. The course of training, which until then was only 3 months, was now increased to six months in recognised hospitals. An Ulster Board of Examiners was established. The examination consisted of both a written paper and an oral examination.

The Midwives Act (Ireland) was not passed until 1918. It controlled the training and registration of midwives. It also forbade unregistered midwives to practice and outlawed the use of 'handy-women'.

DEVELOPMENTS FROM 1921 – 1948

In 1921 Northern Ireland was established as part of the UK. In 1924 Sir Dawson Bates established an enquiry to examine the provision of the health service. In 1928 the Minister thanked the Committee but stated that there was no money to carry out any of its recommendations.[12] At that time the Province had the highest maternal mortality and second highest infant mortality in the United Kingdom. Several of the Union Infirmaries were converted to district hospitals, and the Minister was loathe to agree to these changes as hospitals were a charge on the Exchequer, while Infirmaries were supported by the Poor Law Rates! These hospitals were usually staffed by local general practitioners. Pregnant women with complications could be admitted to these hospitals as fee-paying patients.

The first hospital antenatal clinic was established in 1921 by HL Hardy Greer[19] in the Incorporated Maternity Hospital in Townsend Street. This was a very important step as often as that time this was the first occasion at which the women had a complete medical examination – being before the school medical service and the pre-employment medical examination. At this examination medical problems were diagnosed and treated, some problems in pregnancy could be prevented and complications like transverse lie or breech presentation corrected.

In 1933 the lying-in hospital moved to its present site and became the Royal Maternity Hospital. (*fig 6*) A ward was reserved for septic patients. It was opened officially in 1934.[20] In 1935 the Belfast Board of Guardians officially opened the Jubilee Maternity Hospital.[14] (*fig 7*) Ivy Cottage (*fig 8*) was retained as an isolation unit for patients with puerperal sepsis. The Management of the Mater Infirmorum Hospital opened a 24 bed hospital in 1942. These three specialist hospitals were staffed by ten consultants. There were no specialist units outside Belfast.

Fig 6. Royal Maternity Hospital.

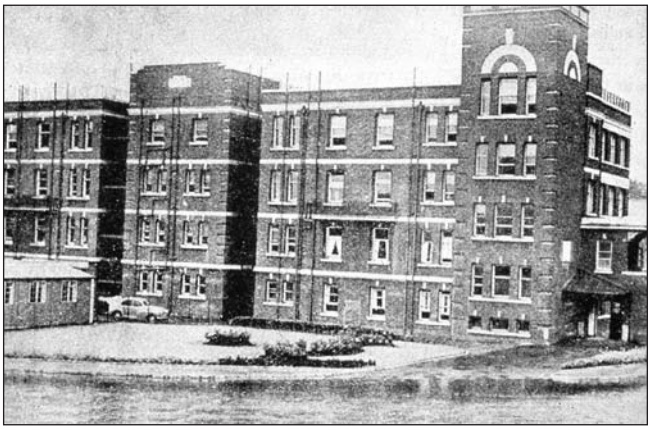

Fig 7. Jubilee Maternity Hospital.

Fig 8. Ivy Cottage.

In 1926, Dr Bailie, Medical Officer of Health for Belfast wrote to the local branch of the British Medical Association reporting that 27 patients in the district had been notified to have developed puerperal sepsis in the previous three years 1923 – 1925. Thirteen had died. They all lived in poor circumstances and the husbands had been unemployed. Among the survivors he reported that eleven had comfortable homes. (A Eakins, personal communication 2005).

A very limited ante-natal care service was commenced in Jubilee in 1938.[14] Only patients who attended a Dispensary Doctor could be seen at the clinic or admitted. These women were poor or destitute and been given a 'line' by an officer of the Guardians. Likewise only dispensary doctors – they being employees of the Board of Guardians – could have patients admitted to Jubilee. While the Royal Maternity had "booked" and emergency admissions, the vast majority of patients were admitted with complications which had developed in their own homes.

In 1936 the first enquiry into maternal mortality was held in the Province. The rate was 7.3 per 1000 live births. In 1941 members of the Belfast Corporation Health Committee invited Dr Carnwath[22] to investigate health problems in the City. One of his recommendations was the establishment of the Obstetrical Emergency Service (Flying Squad) based in the Royal and Jubilee Maternity Hospitals.

At this time the majority of pregnant women were delivered at home. In 1947 52% of patients in Belfast were now delivered in hospital.[16] There were no maternity hospital provision outside the city. The condition of many houses was still very bad. They have been described by Nic Suibhne,[23] Ballard[24] and a Ligoniel midwife.[25] Many 'handy-women' were still in practice despite the fact that their actions had been made illegal in 1917 (Donaldson).[26] They did not charge fees but usually received a small financial gift from the patient.

Analgesia was rarely available. Intermittent chloroform was often given in the later stages of labour if a doctor had been engaged to perform the delivery. "Twilight sleep" induced by morphine and scopolamine was used by specialists in private practice.

Obstetricians now began to look at their practice and analyse their results. Mr McClure[27] published the results of a series of twin deliveries in the Incorporated Hospital in Townsend Street and the Royal Maternity Hospital between 1926 – 1937. The maternal mortality was 25.5 per thousand live births and the corrected infant mortality was 66 per thousand. In another paper, also published in 1937,[28] he reported on the maternal mortality in both the hospitals from 1926 – 1937. The overall maternal mortality was 12.9 per 1000 live births but 51.5 per 1000 live births in the group of emergency admissions.

Breech delivery was always associated with a high infant mortality. Macafee and McClure[29] discussed all such deliveries in the Royal Maternity Hospital between 1932 – 1936. There were 349 such deliveries. The uncorrected fetal mortality was 33.8%. The corrected figures for primigravidae was 10% and for multiparous women was 3.42%. In the article they described what became known as the "Belfast Manoeuvre" to the extended posterior arm. Breech delivery is seldom performed today. In the majority of such patients the delivery is by elective Caesarean Section. With the availability of ultra sound the diagnosis is seldom missed.

Rupture of the uterus is a serious complication which few obstetricians would have to deal with today. Mr JA Price read a paper[30] to members of the Ulster Obstetrical and Gynaecological Society in which he described the management of and results of treatment in Jubilee Maternity Hospital between 1937 - 1954. There were 30 such patients. In only four was there a previous uterine scan. The other causes were an abnormal lie or disproportion. The mortality was 30%. He pointed out that the last 10 patients admitted between 1948 – 1954 survived after the beginning of the National Health Service. He attributed this to both the ready availability of blood transfusion and expert anaesthesia.

Fig 9. Professor CHG Macafee.

Of great importance was the introduction of the Conservative Treatment of Placenta Previa.[31] This method was based entirely on the clinical observation of CHG Macafee (1937 – 1945) (*fig 9*) in the Royal Maternity Hospital. Although the placenta can now be located by ultrasound Macafee's management is still standard practice throughout the world. Delivery may be effected earlier than recommended in some hospitals with excellent neonatal services.

The Training of Medical Students and Doctors 1921 – 1948

It was not until the appointment of Professor CG Lowry that teaching, as we know it today, was revised. The format of the course was continued by Professor Macafee. Formal lectures were given on four days each week for 30 weeks in the University in the penultimate year of Training. In the final year, three lectures and one case discussion were given for 30 weeks by the Consultant staff of the Royal Maternity Hospital. In the final year there were two months

of compulsory residence in a recognised teaching hospital and the delivery of twelve patients under supervision. Until the late 1940's many of the students undertook their practical training in the Rotunda Hospital, Dublin. Student deliveries in that unit were based in the huge district service which the hospital controlled and as future general practitioners would practise in such circumstances many felt that this experience was superior to that offered locally.

There was no formal training for doctors. A few would have gained some experience while acting as "house-men" in the specialist hospitals. Several specialists obtained the Fellowship of the Royal College of Surgeons in Edinburgh which had an examination in Midwifery and Gynaecology.

In 1929 the College (later Royal) of Obstetricians and Gynaecologists was founded in London. Professor Lowry was a founder member. Several consultants were granted honorary membership. Examination for its Diploma or Membership commenced in 1932. The Belfast Hospitals were not recognised for training until 1947.

The Training of Midwives 1921 – 1948

In the Province, Midwives trained in the Belfast Incorporated Maternity Hospital (later in 1934 to become the Royal Maternity Hospital), the Belfast City Hospital (known as the Union Infirmary until 1942) and in the Union Infirmary in Lurgan, and Malone Place Hospital, Belfast. The course of training was increased from 4 months to 6 months in 1926. The course was again lengthened to one year in 1937.

DEVELOPMENTS FROM 1948 – 2006

Service Provision

The Health Services Act (NI) 1946 swept away all piecemeal health care. Free health care was offered to all from 5 July 1948. County Health Committees became responsible for domiciliary midwifery, the fees of family doctors who cared for pregnant women, the provision of a free home help service in difficult pregnancies and a maternity grant to all patients. The Hospitals Authority was made responsible for all maternity hospitals – specialist and general practitioners. Specialist hospitals were established throughout the Province – the last being in 1963. General practitioner hospitals both "stand-alone" and adjacent to specialist units also were established – the last being in 1973.

The facilities offered to the domiciliary patients was enormous including the building of many new homes in the post war era. But the increasing number of women in employment meant there was a sharp decrease in help from family and neighbours, at and after delivery, so home confinement reduced dramatically. In turn the newer developments in the speciality, e.g. monitoring and scanning increased the demand for confinement in specialist units at the expense of both domiciliary deliveries and general practitioner units. General practitioner hospitals gradually closed – Sanderson[32] and Rutherford[33] have described their work as general practitioner obstetricians.

It was the policy of Government to maintain a large domiciliary service. Women who had their baby at home received a monetary grant which was not given to those delivered in hospital. However, there was a constant demand for hospital beds. This was achieved by the earlier discharge of women and their babies to their homes. In 1948 after delivery in hospital, women remained in bed for 12 days, were then allowed up to toilet etc. for two days before discharge. In many hospitals today some women are discharged within 12 hours of delivery! It had been hoped that many would breast feed their babies as there was constant midwife availability. Unfortunately this did not happen.

The tremendous developments in medical knowledge in the speciality and other specialists who offered services to obstetricians revolutionised maternity care. Many general practitioners only undertook ante-natal care so the general practitioners maternity hospitals closed – the last in 1990 as did the domiciliary service.

With an improved ante-natal service, attention to the fetus in utero and the baby after birth developed. Perinatal Surveys were carried out in England and Wales in 1958 and 1970. The term perinatal mortality which includes stillbirths and first week neonatal deaths was first used in England in 1953 and is regarded as a guide to the standard of care offered to mother and baby. A survey was undertaken here of neonatal deaths in 1976. One of their recommendations was the establishment of a committee to investigate infant mortality and handicap in the Province. This committee chaired by Dr Baird recommended that maternity hospitals should be large enough not only to have sufficient obstetricians but also dedicated obstetric anaesthetists and neonatologists. This report was accepted and many of the smaller specialist maternity hospitals have closed. They include Tyrone County (1992), Waveney (1994), Larne (1994), South Tyrone (1999), Ards (1997), Ballymoney (2001), Downpatrick (2003). The closure of Jubilee and transfer of services to Royal Maternity was made not because of this report but the lack of cardiac neo-natal services. The transfer took place in 2000. Several specialist hospitals which do not fulfil the recommendation of the "Baird Report" remain open. On 28 September the Minister of Health announced that £300,000,000 was to be spent on a new Children's and new Maternity Hospital to replace present hospitals on the Royal site. He allocated £2.62 million to Management to plan the new hospitals. Work is expected to start in May 2008 and be completed in 2017.[35]

During the 1970's the introduced of the 'Syntocinon" drip and the use of Prostaglandin made induction of labour a much safer procedure than the old fashioned Oil, Bath and Enema. Obstetricians gradually changed their motto from that of "Masterly Inactivity" to that of "Active Intervention". This led to an increase in the rate of delivery by Caesarean Section. In 1953[40] the rate in Northern Ireland was 2.8% whereas in 2004 it had risen to 27.48%. (Margaret Boyle personal communication).

Development of the Speciality and those Allied to it

Electronic fetal monitoring had been introduced in the USA by Hon in 1950. It was first used in Belfast in 1970 by Professor CR Whitfield[36] who had trained in that unit. Ultrasound scanning of the pregnancy had been developed in Glasgow by Donald in 1958.[37] The first commercial machine was brought into the Province in 1973 by Professor JHM Pinkerton. Rhesus incompatibility[38] was a major problem in the Province. At one time 15% of all admissions into Royal

Maternity had this problem. Clarke and his colleagues in Liverpool developed a prophylaxis programme. This was introduced into clinical use in the Province in 1968.

The development of a group of doctors who dedicated their work to obstetric anaesthesia led to the increased safety of operative obstetrics. Hospitals could now offer a 24 hour epidural analgesic service. A society of like minded doctors to advance this sub-specialty was founded in 1976. Dr M Lewis was the local founder member.

Family Planning

For generations this was achieved by abstinence or coitus interruptus – both unsatisfactory methods. Male barrier methods using various products have been used from pre-historic times but it was not until the 1930's when latex was developed that the condom became a satisfactory method. Female barrier methods were not introduced until the late 19th century.

The first attempt to establish a clinic in the Province was made by Marie Stopes in 1934.[39] This closed in 1947 due to a lack of demand! A small clinic started in Royal Maternity Hospital in 1940 and a second in Malone Place Hospital in 1951. A revolution took place when the contraceptive pill was introduced into clinical practice in 1963. These drugs became freely available on the National Health Service. A major advance in the provision of this service was achieved when all forms of family planning became part of the National Health Service in 1974.[40]

Blood transfusion[41] has saved many lives. The service was established here by Sir Thomas Houston and Professor JH Biggart in 1943. Dr Ruth Huth became the first full time Director in 1946. Not only was blood readily available but every pregnant women had blood grouping and other tests carried out by the services. The anti-D serum used in Rhesus negative was obtained by removing blood from patients with the complication. As the numbers decreased the officers of the service injected D antigen into Rhesus negative male volunteers in order to maintain supplies of the serum.

Investigation into the problems of babies with congenital abnormalities was started when Dr (later Professor) N Nevin was appointed to the Department of Epidemiology and Medical Statistics in Queen's University in 1969. He held clinics in both Royal Maternity and Jubilee Hospitals. Amniocentesis was performed where necessary.

Neonatology

The greatest advance in the entire obstetrical and allied services was that of Neonatology. Following the various reports Neonatal intensive care units were established in 3 hospitals, Altnagelvin, Craigavon and then Ballymena/Antrim complex – now Antrim only. A highly sophisticated Regional intensive care unit was developed in the Royal Maternity Hospital.

Obstetric consultants were encouraged to send women in premature labour to these hospitals. A 'neonatal flying squad' was recommended to transport the premature babies if delivered in a hospital without adequate facilities.

The presence at all "difficult" or premature births of a doctor trained in neonatology improved the survival of many babies. The use of oxygen administered intermittently by a face mask was replaced by passing of an endotracheal tube. Whiskey on a midwife's finger was replaced by modern drugs! Heated resuscitation cots were provided in all labour wards.

Respiratory distress syndrome was first described as a specific pathological entity in 1953 when it was known as 'hyaline membrane disease'. The Lecthin Sphingomyelin Area Ratio (LSAR) test performed on liquor obtained by amniocentesis was a test which could predict respiratory problems. Whitfield *et al*[42] developed this test from one introduced by Gluck. For many years Belfast was the most advanced centre for this study in Great Britain. It was known that the use of surfactant would prevent the complication. Using artificial surfactant produced in Sweden, Halliday[43] and his colleagues reported dramatic results. Numerous multi-centre clinical trials have been performed. Professor Halliday[44] was the co-ordinator for the European trials.

Much research has been undertaken in the Royal Maternity Hospital into the nutritional problems of premature babies. Special high calorie 'milks' for premature babies have been manufactured following this work. Halliday[44] was able to report on 40% survival of babies weight less than 1000 grams.

The Training of General Practitioner Obstetricians

At the beginning of the National Health Service all doctors who practised midwifery were placed on the obstetric list. From January 1967 it became compulsory to have completed 6 months as a houseman in a recognised hospital before admission to the list was granted. Thereafter the doctor had to attend a certain number of deliveries and attend refresher courses to remain on the list. As the number of births decreased these regulations had to be frequently altered. In Northern Ireland doctors did not get a fee for shared antenatal care with the hospital staff unless they were on the Obstetric List.

The Training of Specialist Obstetricians

The training of the Specialist Obstetrician is controlled by the Royal College of Obstetricians and Gynaecologists. Like general practitioners the course of training has been changed. There are now 4 sub-specialities within the overall training. The minimum requirement for a consultant appointment is to hold the membership examination of the College or equivalent.

For many years the College acted only as an Examination Body. Study days commenced in 1962 and now study days and weeks are held on a regular basis.

In the early 1950's when the specialist service was established there was only one consultant in each speciality in a hospital. Efforts were made to develop a further education programme. Through the work of Mr Bill Laird, of the Waveney Hospital, the Ulster Obstetrical and Gynaecological Society was formed in 1952. Members met four times each year for "study days". The programme consisted of demonstration of operative technique, case discussions and lectures. At these, there was always a "guest lecturer" from outside the Province.

The Training of Medical Students

In 1945 Professor Lowry had retired and was succeeded by Professor CHG Macafee. He retired in 1963 and was succeeded by Professor JHM Pinkerton. During his term of office Dr JGMcD Harley was awarded an Honorary Clinical Chair in 1973. Professor WJ Thompson was appointed to a second Chair in 1980 and succeeded Professor Pinkerton in 1985. Professor Neil McClure is the present holder of the Chair following Professor Thompson in 2000.

The training in midwifery remained unchanged until the entire course of medical undergraduate training was shortened and changed. The course was reduced to a hospital attachment for 8 weeks. Compulsory residence was abolished in 1985.

The midwifery and gynaecological course now consists of only a 6 week attachment to one of seven recognised teaching hospitals in the Province. During this time all students attend 3 days of lectures – a total of 14 lectures. During the attachment, time is spent between the labour ward, clinics which include maternity/gynaecological and genitourinary diseases and observing gynaecological operations. The student of today performs only three deliveries.

At the end of the attachment the students sit an examination – Objective Structured Clinical Examination (OSCE). This replaces the Final Medical Examination. Since the late 1980's, the majority of medical students are female. Women doctors now occupy most of the trainee posts in obstetrics and gynaecology and now there are many women consultants in the speciality in the Province.

Midwife Training

Important developments in midwife training were governed by the establishment of the following: the Joint Nurses and Midwives Council for Northern Ireland in 1922; the Northern Ireland Council for Nurses and Midwives in 1971 and the National Board for Nursing, Midwifery and Health Visiting for Northern Ireland in 1979.

In 1980 the period of training was increased to eighteen months. In 1971 a Central School of Midwifery was established by amalgamation of the existing schools in Jubilee and Royal Maternity Hospitals. Later this was expanded to include Altnagelvin and the Ulster Hospitals.

The training of midwives became the responsibility of Queen's University in 1997. The course consists of both theoretical lectures given in the University and practical work in the main maternity hospitals in the Province. The duration of the course is either 18 months or three years depending on previous experience of the candidate. The faculty is under the direction of Professor Jean Orr. Forty eight students are admitted each year.

CONCLUSION

The story of the development of Midwifery is one of overall continuous progress in abolishing almost completely the maternal mortality rate and markedly reducing the perinatal mortality rate. These remarkable results could not have been achieved without marked alterations to the care of the pregnant woman and her baby. In 1806 only a few poor women were delivered in hospitals. Now almost all deliveries take place in specialist hospitals with full neonatal, laboratory, anaesthetic and family planning services. Interested general practitioners now only offer 'shared care' with the hospital staff.

The development of better housing and the improvement in general health have contributed to these results. The continual compulsory refresher courses for specialists and midwives plays an important part in this progress.

The "Obstetric Physician" of old has been replaced by the modern "Surgical Obstetrician". Has active intervention gone too far? Future obstetricians will have to decide!

Sections of the article have been taken from the unpublished thesis by the author "The Development of Maternity Services in Northern Ireland 1948 – 1992" which is available in Queen's University Science Library.

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Case Report

Extra salivary Adenoid Cystic Carcinoma; report of two cases

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INTRODUCTION

Adenoid cystic carcinoma is a well-recognized malignant neoplasm of both the major and minor salivary glands. It carries a poor prognosis, and may also occur as a primary neoplasm elsewhere. Adenoid cystic carcinoma in the breast is uncommon, accounting for 0.1% of all breast cancers.[1-3] It has very favorable biological characteristics and has an excellent prognosis. Tumour recurrences as well as regional and distant metastases have been described rarely. The first patient in our report had a very short history of a breast lump and radiologically confirmed bilateral pulmonary metastases even though she had a node negative, histologically proven low grade tumour.

Primary adenoid carcinoma of the skin is extremely rare. It may present as a primary site or as distant metastasis. They are locally aggressive mimicking their salivary counterpart with a recurrence rate of 51%.[4] Our second case is a patient with an eight year history of cutaneous swelling diagnosed clinically as a sebaceous cyst and confirmed as adenoid cystic carcinoma on pathology.

CASE REPORTS

CASE 1 A 73 year old woman was referred, complaining of mastodynia and a lump in the left breast for four months. Examination revealed an irregular, hard, tender mass behind and lateral to the left nipple, measuring 4 x 4 cm in size. No axillary lymphadenopathy was detected on examination. Mammogram showed a 3.5 cm ill defined lobulated mass above and lateral to the left nipple. Appearances were those of a carcinoma. Fine needle aspiration cytology (*fig 1*) showed an aspirate of high cellularity with groups of monomorphic cells associated with round to oval globules of matrix material. In the background were scattered single cells. The appearance was highly suggestive of adenoid cystic carcinoma. She had a core biopsy, which confirmed an adenoid cystic carcinoma.

Preoperative CXR revealed multiple lung deposits. Subsequent CT scan of chest and abdomen showed bilateral multiple lung nodules suggestive of metastases (*fig 2*). The patient underwent left a total mastectomy and axillary node clearance. Histopathology was consistent with the preoperative diagnosis of adenoid cystic carcinoma. Of the 22 axillary nodes removed none contained metastatic deposits. The tumour was negative for oestrogen and progesterone receptors and no lymphovascular invasion was seen. She made a satisfactory postoperative recovery. Neither chemotherapy nor hormonal therapy was required after consultation with oncology. At six months of follow up she is well with no recurrence.

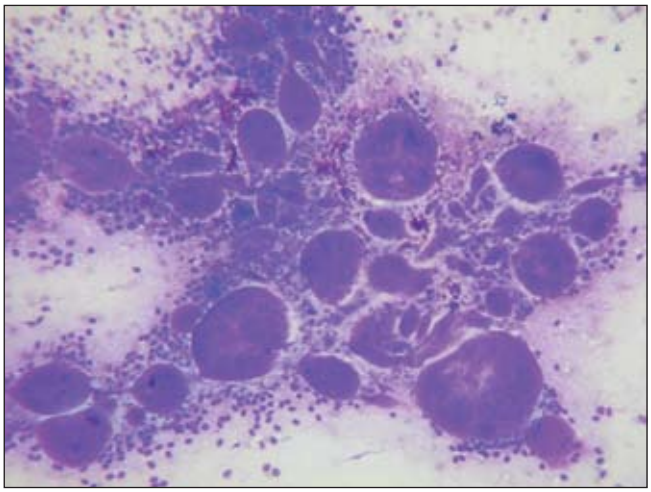

Fig 1. FNA cytological appearance of adenoid cystic carcinoma with globules of matrix material surrounded by monomorphic epithelial cells. MGG stain, x 200 mag.

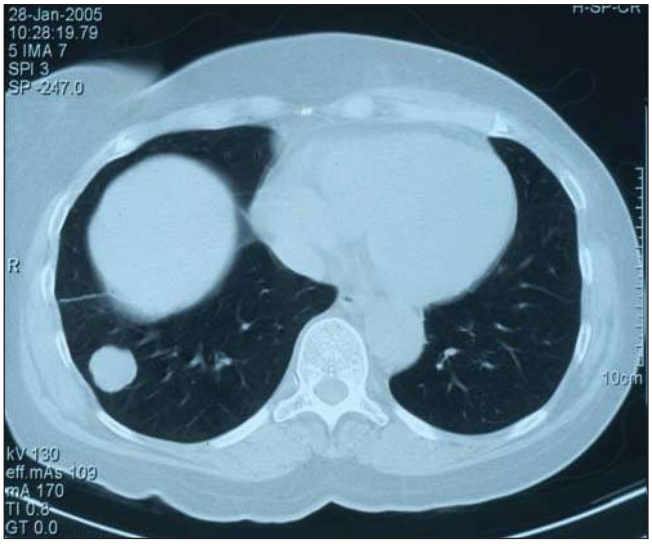

Fig 2. CT Scan of chest showing one of the lung nodules.

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CASE 2 A 47 year old woman was referred with a small painless slowly growing swelling on her right upper back for eight years. This was clinically diagnosed as a sebaceous cyst. This lesion was excised under local anesthesia. Histology (*fig 3*) of the excised lesion revealed adenoid cystic carcinoma.

The tumour consisted of a cribriform proliferation of small dark basaloid cells with hyaline membrane type material in some of the cribriform proliferations. The lesion had a lobulated architecture and infiltrative margins. The periphery of the lesion showed perineural invasion. Immunohistochemical stains showed co-expression of smooth muscle actin, S100, and CK5 & 6 within the myoepithelial component of the adenoid cystic carcinoma. The lesion was re-excised with wider margins. She recovered satisfactorily and eight months after surgery there were no signs of recurrence.

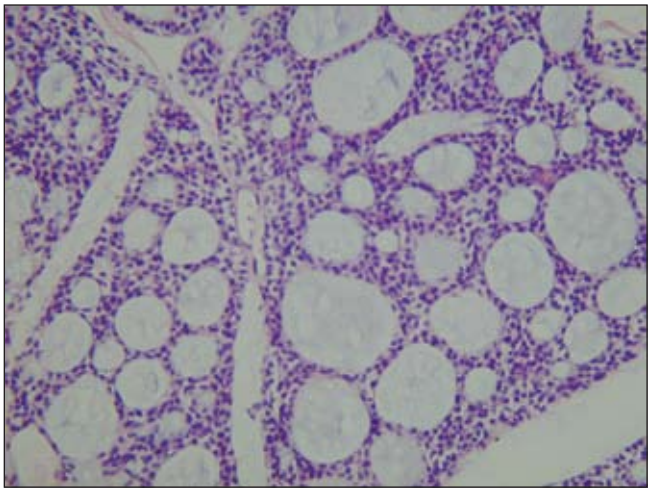

Fig 3. Histology of adenoid cystic carcinoma, cribriform growth pattern. H&E x 200 mag.

DISCUSSION

Adenoid cystic carcinoma is a rare neoplasm of the breast. It occurs predominantly in women aged 50-60 years and may be bilateral.[5] It tends to develop in the periareolar area. Patients may present with a slow growing solid mass for months or years without distant spread. Another common feature is intermittent pain and tenderness in the breast mass. Mammogram and ultrasonography findings vary widely and are not diagnostic.[3] These tumours often appear as a small lobulated nodule with clearly defined margins.[6, 7] They may also show as large masses with more ill defined margins. In this case mammogram showed an ill defined, lobulated lesion.

Cytology and histological appearances of adenoid cystic carcinoma in the breast are similar to the adenoid cystic carcinoma of other anatomical sites. Recent reports described characteristic features on FNA cytology to enable preoperative diagnosis.[1, 2, 8, 9] Cellular aspirates with tightly cohesive aggregates of cells with enclosed spheres and interconnecting cylinders of acellular material are characteristic. The principal cell type represent the epithelial cells and a minor proportion of cells are ovoid to spindle shaped with hyperchromatic nuclei, representing myoepithelial cells. Another characteristic feature is the numerous bare nuclei in the background. Two distinctive histological features of adenoid cystic carcinoma of the breast are the intercellular cystic spaces lined by basement membrane material and biphasic cellularity with myoepithelial cells intermixed with another cell type.[3] Immunohistochemical staining confirms the presence of a dual population of epithelial and myoepithelial cells.[1, 8, 10]

Previous reports have stressed the excellent prognosis for patients with adenoid cystic carcinoma of breast; however tumour recurrence and distant metastases have been described on rare occasions.[4] Some reports show clear cut evidence of malignancy with documented potential for metastases, others show benign behaviour and the less well defined groups reside between these two extremes. Qizilbash[11] reviewed 95 well documented cases with only one case of lymph node metastases documented. Six cases of distant metastases are recorded, (five had pulmonary metastases).

Several studies have investigated the possible correlation between histological grade and prognosis. Some reports concluded that a solid variant of mammary adenoid cystic carcinoma had a more aggressive clinical course. Leeming[12] reviewed 123 cases in the literature and noted that several features distinguished adenoid cystic carcinoma from other breast tumours. Prognosis appeared to be favourable and axillary node involvement was uncommon. Distant metastases were unusual and tended to occur without previous lymph node involvement. Tumours rarely showed positivity for oestrogen and progesterone receptors. There was relative absence of the perineural invasion which characterizes lesions in the salivary glands.

There is no consensus on optimal treatment for adenoid cystic carcinoma of the breast. Surgical management has evolved from radical mastectomy to breast conserving surgery. Due to the documented recurrence of the tumour after local excision, simple mastectomy with careful follow up is recommended. The role of radiotherapy, chemotherapy or hormonal therapy is unproven.

The second patient in our report had an asymptomatic swelling on her back for eight years. Histology was consistent with adenoid cystic carcinoma. Multiple treatment modalities including surgery, radiation and chemotherapy should be used for locally aggressive and potentially metastasizing adenoid cystic carcinoma of the skin. This case demonstrates the benefit of sending even benign lesions for histology.

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Case Report

Trichosporon Asahii. Blood-stream Infection in a non-cancer patient receiving Combination Antifungal Therapy

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INTRODUCTION

Infections with the non-*Candida* yeast species *Trichosporon* have been recognised with increasing frequency over the last two decades.[1] The majority of cases of invasive trichosporonosis have been reported from neutropenic patients with cancer and the mortality is high (64-83%).[2] Other less commonly reported risk groups include patients with organ transplantation (including bone marrow transplantation), burns, prosthetic heart valves, human immunodeficiency virus infection and peritoneal dialysis.[1] We report invasive infection with pathogenic *Trichosporon* species in a patient without these predisposing factors.

CASE REPORT

A seventy-one year old man with a history of non-insulin dependant diabetes mellitus sustained crush injuries to his abdomen, pelvis and lower limbs in a farming accident. Following laparotomy and lower limb vascular repair, he was admitted to the regional intensive care unit (ICU) for ventilatory and inotropic support where he rapidly developed metabolic acidosis, coagulopathy and acute renal failure requiring haemodialysis.

The patient developed a persistent *Enterobacter cloacae* bacteraemia despite receiving ciprofloxacin with gentamicin and, subsequently, meropenem. In response to continued pyrexia despite maximal antibacterial therapy, liposomal amphotericin B 500mg daily was added (5mg/kg for an approximately 100kg patient). Devitalised tissue on his left leg was a possible persistent septic focus so a left above-knee amputation was performed with demonstrable clinical improvement. Central venous catheters for inotrope infusion and haemodialysis were exchanged regularly in response to the patient's persistent pyrexia and positive blood culture isolates.

Blood taken for culture on the fourth day of amphotericin B therapy, became positive after seventy-two hours incubation with a germ-tube negative yeast, later identified as *Trichosporon asahii* by API 32C® (bioMerieux, Les Halles, France), with a 99.9% level of identification.

The patient received seven days treatment with liposomal amphotericin B to which the echinocandin antifungal, caspofungin was then added. Ten days after first isolation, on the fourteenth day of antifungal therapy, a second blood culture yielded *T. asahii*. Subsequently, a reference laboratory performed antifungal susceptibility testing using the microbroth dilution technique according to the guidelines of the National Committee for Clinical Laboratory Standards.[3] Minimum inhibitory concentrations (MIC), and susceptibility breakpoints, were reported as amphotericin B 1mg/L (≤ 1); fluconazole 1mg/L (≤ 8); voriconazole 0.03mg/L (≤ 1); caspofungin 16mg/L (≤ 2).

Thirty-two days following admission the patient died as a result of severe systemic inflammatory response syndrome and multiorgan failure.

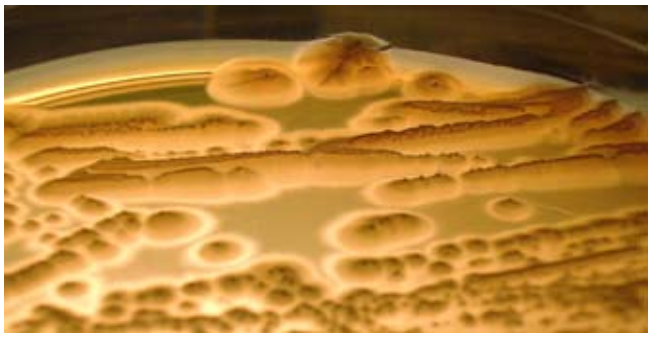

Figure 1. Cream-coloured cerebriform colonies of Trichosporon asahii isolated from our patient on Sabouraud- dextrose agar.

DISCUSSION

Infections with *Trichosporon* species have been recognised with increasing frequency over the last two decades.[1] They can be found as commensals in the human gut or skin flora and in the environment, which may be relevant to our case given that the initial accident occurred in an agricultural setting.[4,5] These non-*Candida* yeasts have a broad spectrum of clinical manifestations from self-limiting cutaneous infections to life threatening invasive disease in the immunocompromised host.[5,6] This is similar to the pattern of disease seen with *Candida* species.

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There is no clear antifungal agent of choice for the treatment of trichosporonosis and in vitro sensitivity assays have not been standardized. There are data to support the use of triazoles (fluconazole, voriconazole) and some authors have recommended combination therapy with amphotericin B.[6] We were reluctant to add such an agent as our patient had severe acute liver failure. MIC's for the novel triazole, voriconazole, have been reported between 0.03-1.0, and it has been used to successfully treat disseminated *T. asahii* infection.[7] There is concern however that the cyclodextran excipient of intravenous voriconazole can accumulate in patients undergoing haemodialysis. We gave consideration to using oral voriconazole, but it was felt that poor bioavailability in the setting of multi-organ failure would limit its usefulness.

We believe this to be the first report of *T. asahii* blood-stream infection not associated with endocarditis in a critically ill, non cancer patient in the UK and one of only a few described worldwide outside of the recognised patient groups listed above. We are unaware of other published cases of confirmed persistent fungaemia, in non cancer patients, despite aggressive antifungal therapy and vigorous attempts to achieve source control.[2,8]

In light of our experience and the available in vitro data, we conclude that amphotericin B cannot be considered optimal first line therapy for the treatment of invasive trichosporonosis.[9] Furthermore, available evidence suggests there is no place for the use of caspofungin in treating trichosporonosis.[10] Azole antifungals, alone or in combination, are probably the drug-class of choice for this infection and of these, voriconazole may come to be the preferred agent.[11] However its usefulness in the ICU may be limited by patients' unreliable gastrointestinal function and their frequent dependence on haemodialysis.

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The authors have no conflict of interest.

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Letters

Laparoscopic removal of abdominal cervical suture

Editor,

Cervical incompetence is diagnosed in 0.1-1% of all pregnancies and in 8% of women with repeated (two or more) mid-trimester pregnancy loss.[1] Cervical cerclage should be offered to patients with three or more pregnancies ending before 37 weeks gestation[2] as there is a strong body of clinical evidence suggesting that cervical cerclage decreases the occurrence of mid-trimester pregnancy loss. Sutures may be placed abdominally or, more commonly, vaginally in the cervix. The most common indications for trans-abdominal insertion of a cervical cerclage are congenital or acquired shortening of the cervix preventing application of a cervical suture and failed vaginal suture.

Case Report: A 42 year old para 1^{+4} was seen at the gynaecology clinic complaining of pelvic pain and requesting sterilisation. Historically, following two mid trimester pregnancy losses, a vaginal cervical suture was placed but a subsequent pregnancy miscarried at 23 weeks. An abdominal cervical suture (polyethylene terephtalate, polyester tape) was inserted in the patient's third pregnancy at 11 weeks gestation. This pregnancy proceeded to term, when a healthy female infant was delivered by Caesarean section. One further subsequent pregnancy in 2002 resulted blighted ovum at 10 weeks gestation. Following discussion about laparoscopic sterilisation, the possible cause for pain and the risk of suture erosion the decision was taken to perform a laparoscopic sterilisation and removal of cervical suture.

A three port laparoscopy was performed and the knot of the suture was identified posteriorly but was buried in peritoneum and could not initially be cut. The knot was freed and the suture was cut using laparoscopic shears. The suture was then easily 'pulled through' and removed via the port in the left iliac fossa. A $^1/_8$ inch Portovac drain was left in the pelvis. A single Filshie clip was applied to each tube, the gas evacuated from the abdomen and the abdominal wounds closed with polydioxanone (PDS). Operating time was 23 minutes. The postoperative course was unremarkable and the patient was fit for discharge when the drain was removed the following morning.

Cervical sutures are increasingly being inserted laparoscopically. Numerous reports claim that the procedure is safe and has advantages over the open method.[3] There is mixed opinion however as to the optimal position of the suture knot. One theory is that by tying the knot posteriorly, one is less likely to have dense fibrous adhesions and therefore facilitate its straightforward subsequent removal via the Pouch of Douglas.

Cases of laparoscopic removal of abdominal suture are rare, indeed only two cases have been published. Both cases had had a suture applied only 5-7 weeks prior to its removal, and the indication for removal in both was to facilitate evacuation of retained products of conception following the diagnosis of fetal demise. In one case only a partial suture removal was possible due to the presence of fibrous adhesions.

The decision to attempt removal of the suture in this case was based on the patient's increasing pain over the previous six years, combined with the reported risk of erosion associated with leaving the suture in-situ.[3] Laparoscopic removal was chosen as the method primarily because the patient requested laparoscopic sterilisation and thus an opportune time to retrieve the suture presented itself. The peri-operative and long-term benefits as mentioned above were also considered.

In a unit with skilled laparoscopic surgeons and high-risk obstetricians, the potential for laparoscopic insertion and removal of abdominal cervical sutures exists. However, data regarding issues such as optimum technique, safety, feasibility and outcomes is currently lacking. These deficiencies need to be addressed prior to the acceptance of this procedure as standard.

The authors have no conflict of interest

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The TG system for bedside recording of sputum colour

Editor,

Most people will know that during a lower respiratory tract infection the sputum is usually discoloured. Typically it is a darker green in the early stages and gradually lightens as the infection improves with time and treatment. The green colour is due to the presence of myeloperoxidase, an enzyme found in neutrophils. The greenness of the sputum, assessed using a commercially available nine point colour chart (BronkoTest UK),[1] has been shown to correlate with sputum bacterial counts,[2] and with sputum leukocyte elastase, interleukin-8, and proteinase inhibitor levels.[3]

Those with experience of treating exacerbations of chronic

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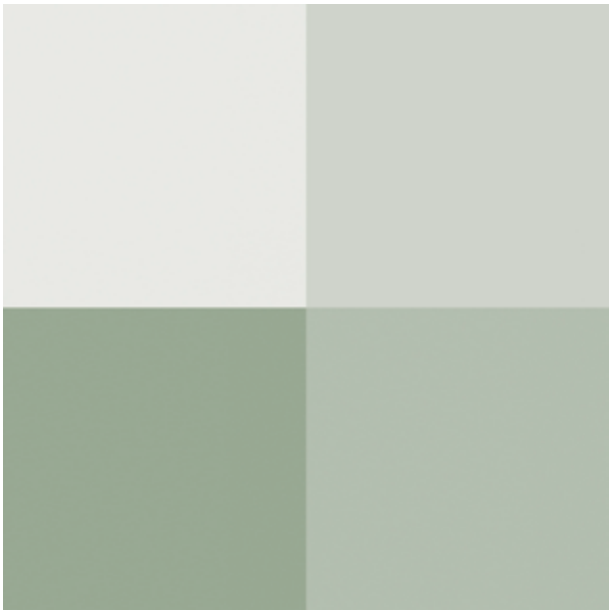

Figure 1. Approximate colours of the TG system for grading sputum purulence. Clockwise from the top left are the grades TG1 to TG4. TG0 is paper white and is not specifically shown.

lung disease will have met patients who fail to improve until the purulence of the sputum improves, either with time or with a change in antibiotic. In order to quantify changes in sputum purulence, this writer has for many years used an arbitrary grading system, historically called the TG system. It has a range from TG0 (white sputum) to TG4 (dark green sputum). With practice it is fairly easy to grade any sputum purely on inspection and to record changes from day to day. A failure of the sputum to improve after three days of a particular antibiotic should lead to consideration of a change in treatment. Equally, improvement in the sputum grade should encourage continuation with the current antibiotic even if sensitivities suggest otherwise.

Figure 2. An artistic representation of the TG system by Mrs Janet Clarke and Miss Bethan Clarke.

Unlike the commercial scale, the TG system is completely unvalidated and as it lacks a standard reference chart there are bound to be some differences between observers. However it has the advantage of simplicity and it avoids the problems of unquantified references to "sputum purulent" found in many inpatient notes. Figure 1 shows an approximation of the grades TG1 to TG4 developed by scanning a sputum assessed as TG4 and sampling the image in Adobe Photoshop CS. The resultant average colour in the CMYK system was C46, M24, Y42, K1, and the colours for TG3 to TG1 were obtained from it by reducing the opacity to 75%, 50% and 25% respectively. TG0 would be white.

The sputum to be inspected should be placed in a jar, either white or transparent, rather than on a tissue where it tends to lose colour. It should be standard practice for sputum jars to be supplied to patients and not renewed until the sample has been seen, preferably on a daily basis. Extraneous colour from sweets and food is usually not a cause for confusion.

I am indebted to the artists for their interpretation of the TG system shown in Figure 2.

The author has no conflict of interest.

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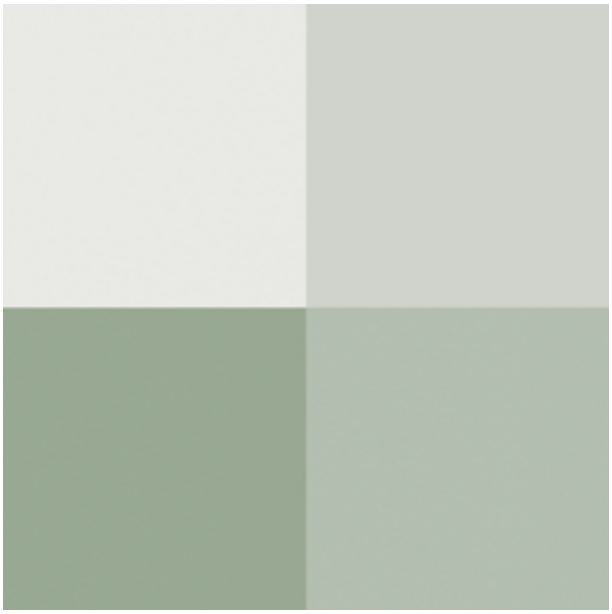
Cerebral Abscess in a 16 year old boy

Editor,

We present an unusual case of Cerebral Abscess in a 16 year old boy

Clinical Presentation: A 16 year old boy was admitted with a one week history of an upper respiratory tract infection (URTI). On the day of admission he complained of severe frontal headache, 10/10 in severity, and had vomited three times. He complained of neck stiffness and photophobia. On questioning his parents, they found him mildly confused and had noticed his difficulty in retaining new information. He had no psychiatric or behavioural symptoms other then lethargy. Before admission he had a complex generalised seizure lasting less than a minute. He had no history of alcohol or drug abuse, no travel history and no rash. His General Practitioner had commenced ciprofloxacin 250 mg twice daily one day prior to his admission. On examination he had pyrexia of 39.5°C. There was no focal neurology; Glasgow



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coma scale was 15/15. His cranial nerves were intact, tone, power, and reflexes were normal with flexor planter responses. He had no objective signs of neck stiffness with a negative Kernig's sign. On fundoscopy there was no papilloedema. Other systemic examination was unremarkable with normal ECG and chest X-ray.

Differential diagnosis & management: A probable diagnosis of meningitis was made and differentials of encephalitis, space occupying legion or viral illness were considered. He was treated with cefotaxime & acyclovir. Computed Tomogram (CT) of brain showed an epidural abscess measuring 2.2 × 1.4 cm in left frontal region. He was immediately transferred to the regional neurosurgery department and underwent drainage of the abscess through a left frontal burr hole. The patient remained stable but after five days required further burr hole decompression. Streptococcus constellates and milleri were isolated from the pus. He was discharged on Ertapenam 1g intravenously daily.

Discussion: Once a fatal condition and a complication of URTI and sinusitis, cerebral abscess is rare in Western society. This is due to extensive use of broad spectrum antibiotic therapy. The incidence of cerebral abscess is about 4 cases/million/year and it is ten times less common then a brain tumour. Once recognised it is a neuro-surgical emergency. This case illustrates that although rare, the condition can complicate an apparent benign URTI in a young and fit patient with no previous morbidity. Symptoms can be non specific and neurological signs subtle.

CT and magnetic resonance imaging (MRI) are essential tools that enable the diagnosis of intracranial purulent collections. Delay in surgical drainage can be associated with high morbidity and case-fatality rates.[1] The infection can originate from contiguous sites of existing infections, such as chronic otitis media, dental infection, mastoiditis, or sinusitis, where anaerobic bacteria predominate.[2]

Close coordination of care between neurosurgeons and infectious diseases specialists is important in the management. The relative rarity of brain abscess and the frequent delays in making the diagnosis render this condition a significant challenge for the clinician.[3]

Conclusion: Cerebral Abscess should be considered in ill patients presenting with pyrexia and neurological symptoms.

The authors have no conflict of interest.

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Interview

The changing face of General Practice in Northern Ireland - Portfolio GP's

Claire T Lundy

Dr Finbar McGrady

The traditional role of the GP in their consulting room serving the local population throughout the working week is no longer the only option for doctors interested in general practice in the United Kingdom. I met with Dr Finbar McGrady one of the new breed of 'Portfolio GP's' to find out more about his diverse role as clinical academic and general practitioner.

Dr McGrady trained at Queen's University Belfast, graduating in 1999. Following his Preregistration House Officer year he headed for sunny Australia to consolidate his training by taking up a post in emergency medicine and general surgery. At that time he was strongly considering a career in general practice.

C: Finbar, how did you plan your GP training?

F: I met with the Postgraduate General Practice Dean Dr McKnight who gave me guidance on specialities which would prove useful. I worked in Craigavon Area Hospital where I did Paediatrics and Obstetrics and Gynaecology. I then did General medicine in Newry. The experience gained in these hospitals provided insight to the workings in secondary care and helped develop my clinical skills. There was good consultant support for GP trainees and exposure to common conditions. Following this I considered my options for registrar training. I had always been interested in teaching and was keen to combine this with clinical medicine. The research registrar post in Dunluce Health Centre seemed an ideal way of completing my training and acquiring further experience of research and medical education. These two year posts have been running for seven years now and are funded by the Research and development office and the (then) Northern Ireland council for postgraduate medical and dental education (NICPMDE). Dr Keith Steele was my supervisor / trainer. Part of the time was spent in clinical practice and the rest setting up and completing a research project. My study on the physical activity habits of GPs in Northern Ireland has led to my completing an MPhil.

C: What qualifications did you need to complete your training?

F: During my registrar post I completed my summative assessment in general practice and my MRCGP exam. GP trainees are also encouraged to obtain diplomas in various specialities. This is a fairly common path for GP's in Northern Ireland; however the process is currently undergoing some changes.

C: You now work as a 'Portfolio GP' what exactly does this entail?

F: Many GP's are now choosing to work part-time in a couple of different jobs. My post as part-time clinical academic in Dunluce health centre is closely affiliated to medical education and came about due to changes in funding following the expansion of Queens medical school. I also work part-time in a rural GP practice and have regular out of hours commitments. The interface between hospital and community care is becoming increasingly blurred, with more and more chronically ill patients being cared for in the community. The variety of work is refreshing and I find that it brings a sense of clinical reality to my role as an educator.

C: Tell me more about your role as a clinical academic?

F: This job reflects the changing role of GP's in medical student education. I also teach clinical skills to first and second year students. I help with the organisation and delivery of the Science in Society and Medicine module to first year students and facilitate tutorials during it. I am also closely involved in developing the fourth year assessment process in general practice and have examined in the final medical exam and clinical skills exams. Clinical skills sessions in general practice now begin in first year. Students cover areas such as history taking and examination and start to see patients for the first time in the community environment. In my experience students really enjoy these sessions. They value the protected nature of small group teaching with an experienced clinician.

C: What career development opportunities are there for portfolio GP's?

F: Recent studies have shown that more GPs are opting to work part time; this can be either as a salaried (i.e. employed by a practice to perform a set number of sessions) or as a partner within a practice. The new general medical service contract has facilitated this flexibility. This then provides the opportunity for them to do other work. Many GP's are gaining specialist knowledge in a particular field and are increasingly involved in the triage of patients through to a particular hospital service. (Also known as GPwSI [GP with specialist interest]) There is huge scope for career development in fields such as orthopaedics, dermatology and sports medicine, with many GP's now taking additional qualifications in these areas. It is likely that the role of GPs will continue to grow in providing clinical teaching for medical students, and with the advent of 'Modernising Medical Careers', in the future substantially more doctors will get to benefit from experience in general practice during their early medical careers. I personally enjoy clinical teaching and would hope to continue this as my area of interest.

C: Any insider tips for a young doctor considering becoming a GP?

F: I think most would agree that certain attributes are essential as a general practitioner: good communication skills, genuine caring for your patients, clinical competence, ability to problem solve and effective management skills. If you have all these skills you are likely to really enjoy working in general practice. I would recommend being a portfolio GP; it allows choice and variety in your working life and delivers opportunities to develop new skills.

Ulster Med J 2006; **75 (3)** *232-234*

Abstracts

75th Meeting of the Ulster Society of Internal Medicine, Friday 19th May 2006

Erne Hospital, Enniskillen.

PROGRAMME:

2.00pm	Welcome Chairman: Dr David Higginson
2.05pm	Papers
3.20pm	Afternoon Tea
3.50pm	Papers
4.05pm	Two case presentations from Erne Hospital
4.20pm	Invited Abstract: "The patient with neurological symptoms - pathological or functional?" Dr SA Hawkins, Consultant Neurologist and Reader in Medicine, Royal Victoria Hospital and Queens University Belfast.
5.00pm	Close

PRESENTED ABSTRACTS

An Epidemiological Study of Multiple Sclerosis in the North-East Region of Northern Ireland.

OM Gray, GV McDonnell, SA Hawkins.

Royal Victoria Hospital, Grosvenor Road, Belfast, N. Ireland. BT12 6BA.

Objective: To estimate the prevalence of multiple sclerosis (MS).

Background: NI has been recognised to be an area of high risk for MS. The original study of Allison and Millar in 1951 found a prevalence of 41 per 100,000. Subsequent studies in 1951, 1961, 1986 and 1996 suggested prevalence rising serially - 57, 104 and 168.2 per 100,000.

Methods: We surveyed the North-East of NI (population 160,446, area 2,030 km^2). Sources of cases included the Northern Ireland Neurology Service records, general practitioners, hospital discharge coding, MS charities, MS specialist nurses and respite facilities. Cases complied with the Poser criteria or the McDonald criteria.

Results: From a provisional list of 469 cases, 370 (123 males, 247 females) were identified with definite MS. The prevalence was 230.6 per 100,000 (95% CIs 207.0-255.4) with a significantly higher prevalence in females (300.8 / 100,000) than males (157.0 / 100,000). Mean age on prevalence day was 50.3 years (SD 14.0). Mean age at onset was 32.6 years (SD 10.5). Mean delay between onset and diagnosis was 4.6 years.

Conclusions: NI continues to have a rising prevalence of MS. This may in part be due to improved case ascertainment, improved diagnostic techniques and improved awareness of MS.

Cardiovascular Risk Assessment in Primary Osteoporosis

DJ Armstrong, ASH Lee, M McQuilkin, MB Finch*

Department of Rheumatology, Musgrave Park Hospital, Greenpark Healthcare Trust, Belfast, *Department of Life and Health Sciences, University of Ulster, Jordanstown

Background: There is increased awareness of the need for cardiovascular (CVS) risk monitoring in the Northern Ireland population in general, and amongst rheumatoid arthritis and SLE patients in particular, who have a higher incidence of cardiovascular disease. No clear guidelines exist for cardiovascular risk monitoring in osteoporosis, and the prevalence and associations of known CVS risk factors are largely unquantified.

Aim: To estimate current levels of CVS risk monitoring in primary osteoporosis patients, and then perform a CVS risk assessment, together with measures of bone health, bone mineral density (BMD) and fracture risk.

Methods: History and examination of 80 patients at a dedicated multidisciplinary osteoporosis clinic at Musgrave Park Hospital, together with BMD measurement and blood sampling for lipids, glucose and urate measurement.

Results: 80 primary osteoporosis patients (10 male, 70 female, median age 67.0 years (95%CI 65.0-70.0), median onset 63.0 years, (95%CI 60.0-65.0)) were assessed. 57 (71%) recalled a blood pressure check in the previous year, but just 35 (43.8%) had received a lipid check, and only 26 (32.5%) a test for diabetes. 8 patients had systolic blood pressure (BP) >160mmHg, and 7 diastolic BP >90mmHg (definitely hypertensive). 31 (38.8%) had systolic BP >140mmHg and 41 (51.1%) had diastolic BP>80mmHg) (borderline hypertension). 14 (17.5%) of patients had already been diagnosed with angina, myocardial infarction or stroke.

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Results: From a provisional list of 469 cases, 370 (123 males, 247 females) were identified with definite MS. The prevalence was 230.6 per 100,000 (95% CIs 207.0-255.4) with a significantly higher prevalence in females (300.8 / 100,000) than males (157.0 / 100,000). Mean age on prevalence day was 50.3 years (SD 14.0). Mean age at onset was 32.6 years (SD 10.5). Mean delay between onset and diagnosis was 4.6 years.

Conclusions: NI continues to have a rising prevalence of MS. This may in part be due to improved case ascertainment, improved diagnostic techniques and improved awareness of MS.

Cardiovascular Risk Assessment in Primary Osteoporosis

DJ Armstrong, ASH Lee, M McQuilkin, MB Finch*

Department of Rheumatology, Musgrave Park Hospital, Greenpark Healthcare Trust, Belfast, *Department of Life and Health Sciences, University of Ulster, Jordanstown

Background: There is increased awareness of the need for cardiovascular (CVS) risk monitoring in the Northern Ireland population in general, and amongst rheumatoid arthritis and SLE patients in particular, who have a higher incidence of cardiovascular disease. No clear guidelines exist for cardiovascular risk monitoring in osteoporosis, and the prevalence and associations of known CVS risk factors are largely unquantified.

Aim: To estimate current levels of CVS risk monitoring in primary osteoporosis patients, and then perform a CVS risk assessment, together with measures of bone health, bone mineral density (BMD) and fracture risk.

Methods: History and examination of 80 patients at a dedicated multidisciplinary osteoporosis clinic at Musgrave Park Hospital, together with BMD measurement and blood sampling for lipids, glucose and urate measurement.

Results: 80 primary osteoporosis patients (10 male, 70 female, median age 67.0 years (95%CI 65.0-70.0), median onset 63.0 years, (95%CI 60.0-65.0)) were assessed. 57 (71%) recalled a blood pressure check in the previous year, but just 35 (43.8%) had received a lipid check, and only 26 (32.5%) a test for diabetes. 8 patients had systolic blood pressure (BP) >160mmHg, and 7 diastolic BP >90mmHg (definitely hypertensive). 31 (38.8%) had systolic BP >140mmHg and 41 (51.1%) had diastolic BP>80mmHg) (borderline hypertension). 14 (17.5%) of patients had already been diagnosed with angina, myocardial infarction or stroke.

Ulster Med J 2006; **75 (3)** *232-234*

Abstracts

75th Meeting of the Ulster Society of Internal Medicine, Friday 19th May 2006

Erne Hospital, Enniskillen.

PROGRAMME:

2.00pm	Welcome Chairman: Dr David Higginson
2.05pm	Papers
3.20pm	Afternoon Tea
3.50pm	Papers
4.05pm	Two case presentations from Erne Hospital
4.20pm	Invited Abstract: "The patient with neurological symptoms - pathological or functional?" Dr SA Hawkins, Consultant Neurologist and Reader in Medicine, Royal Victoria Hospital and Queens University Belfast.
5.00pm	Close

PRESENTED ABSTRACTS

An Epidemiological Study of Multiple Sclerosis in the North-East Region of Northern Ireland.

OM Gray, GV McDonnell, SA Hawkins.

Royal Victoria Hospital, Grosvenor Road, Belfast, N. Ireland. BT12 6BA.

Objective: To estimate the prevalence of multiple sclerosis (MS).

Background: NI has been recognised to be an area of high risk for MS. The original study of Allison and Millar in 1951 found a prevalence of 41 per 100,000. Subsequent studies in 1951, 1961, 1986 and 1996 suggested prevalence rising serially - 57, 104 and 168.2 per 100,000.

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p=0.001). There was a trend towards coronary artery stenosis (>70%) in a double vessel distribution involving the LAD in those patients who had STE in aVR compared to those who did not (22% 8/37 vs 5% 4/76, p=0.06)

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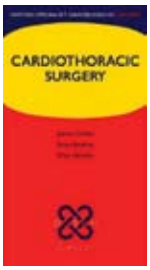
STE in aVR during exercise does not diagnose significantly more inducible abnormalities than STD alone. However, unlike STD which is not predictive of a territory of ischemia, STE in aVR is associated with an anterior wall reversible defect.

Book Reviews



Oxford Specialist Handbooks in Surgery – Cardiothoracic Surgery: Joanna Chikwe, Emma Bedow, Brian Glenville. Oxford University Press, UK. January 2006. 832pp £39.50. ISBN 0-19-856588-7

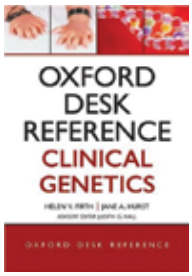
Reading this handbook of "Cardiothoracic" surgery, I am reminded of the Peter Cook & Dudley Moore sketch about the one legged man auditioning for the role of Tarzan: "I love your right leg … I have nothing against your right leg … unfortunately neither do you!" Well, I have nothing against the cardiac surgery side of this book, it is excellent. Unfortunately the Thoracic component is almost non-existent.

There are 769 pages in the book: 620 cover the 5 operations that Cardiac surgeons perform and the other 149 cover the 105 operations Thoracic surgeons do on a regular basis. This is hardly a criticism of the authors as it rather accurately reflects the knowledge and practice of "Cardiothoracic" surgery in these islands. I understand that to cover Thoracic in detail, as the authors have done for Cardiac surgery in this text, would take a number of thousands of pages and they would have had to acknowledge at least one recognised practitioner of general Thoracic surgery. In 149 pages they could only be expected to provide a book of lists and that is what they have done. The lists look like they have come from an aging text on Thoracic surgery. Some of the items are clearly wrong and many more are misleading.

The Cardiac portion is well organised, logical and provides an excellent basis for a senior house officer to begin his Cardiac surgical training. It has excellent descriptions of physiology, anatomy and pathology, surgical knots, how to harvest veins, how to do very complex Cardiac surgery. It even has quite a section on the somewhat avant-garde techniques of minimally invasive Cardiac surgery. Unfortunately there are a number of inaccuracies in the cardiac section, some trivial but others potentially fatal.

For the next edition, the authors would be well advised to take feedback from practising registrars to correct the inaccuracies in Cardiac surgery and to take a guillotine at page 620 and cut out any reference to Thoracic surgery altogether. They would then have an excellent handbook on Cardiac surgery for a junior doctor taking up a post in that sub-speciality.

KIERAN MCMANUS



Oxford Desk Reference: Clinical Genetics: HV Firth, JA Hurst. Oxford: Oxford University Press, July 2005, 672pp £49.95 ISBN 0-19-262896-8

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Overall this book is a winner and is a must for every clinical genetics department. This is arguably the most important book ever published for trainees in genetics. However this should not be interpreted as less valuable for trained geneticists or other physicians with interest in clinical genetics. This is one book, which can be considered as an extremely useful reference source to any genetics physician. Be it a prenatal clinic, a cancer clinic or a dysmorphology clinic it is a desirable companion. As aptly described in the preface this book is a 'peripheral brain' and 'life saver' for the geneticists in many situations!

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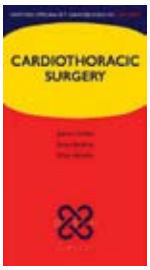
Book Reviews



Oxford Specialist Handbooks in Surgery – Cardiothoracic Surgery: Joanna Chikwe, Emma Bedow, Brian Glenville. Oxford University Press, UK. January 2006. 832pp £39.50. ISBN 0-19-856588-7

Reading this handbook of "Cardiothoracic" surgery, I am reminded of the Peter Cook & Dudley Moore sketch about the one legged man auditioning for the role of Tarzan: "I love your right leg … I have nothing against your right leg … unfortunately neither do you!" Well, I have nothing against the cardiac surgery side of this book, it is excellent. Unfortunately the Thoracic component is almost non-existent.

There are 769 pages in the book: 620 cover the 5 operations that Cardiac surgeons perform and the other 149 cover the 105 operations Thoracic surgeons do on a regular basis. This is hardly a criticism of the authors as it rather accurately reflects the knowledge and practice of "Cardiothoracic" surgery in these islands. I understand that to cover Thoracic in detail, as the authors have done for Cardiac surgery in this text, would take a number of thousands of pages and they would have had to acknowledge at least one recognised practitioner of general Thoracic surgery. In 149 pages they could only be expected to provide a book of lists and that is what they have done. The lists look like they have come from an aging text on Thoracic surgery. Some of the items are clearly wrong and many more are misleading.

The Cardiac portion is well organised, logical and provides an excellent basis for a senior house officer to begin his Cardiac surgical training. It has excellent descriptions of physiology, anatomy and pathology, surgical knots, how to harvest veins, how to do very complex Cardiac surgery. It even has quite a section on the somewhat avant-garde techniques of minimally invasive Cardiac surgery. Unfortunately there are a number of inaccuracies in the cardiac section, some trivial but others potentially fatal.

For the next edition, the authors would be well advised to take feedback from practising registrars to correct the inaccuracies in Cardiac surgery and to take a guillotine at page 620 and cut out any reference to Thoracic surgery altogether. They would then have an excellent handbook on Cardiac surgery for a junior doctor taking up a post in that sub-speciality.

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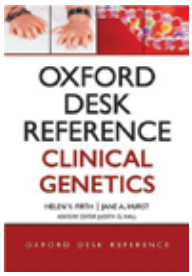

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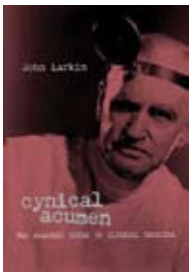

Cynical Acumen. The Anarchic Guide to Clinical Medicine: J Larkin, Radcliffe Publishing Ltd, UK. December 2005. 152pp £19.95. ISBN 1-85775-787-4

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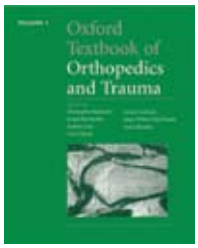

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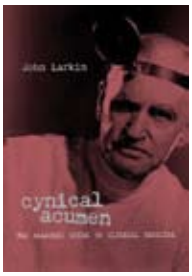

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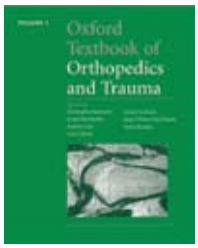

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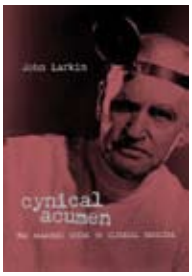

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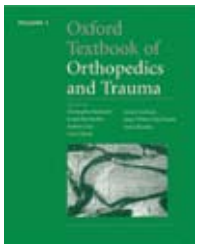

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JON CLARKE

Surgeon, Scientist, Soldier – The life and times of Henry Wade 1876-1955: Dugald Gardner. RSM press, October 2005. 440pp. £35.00. ISBN 185315-661-2.

Henry Wade is an apotheosis in British Surgery, becoming a famous and accomplished technical surgeon who followed Lister's footsteps, a renowned clinical scientist, teacher, a war hero and philanthropist. "Surgeon, Scientist, Soldier" by Dugald Gardner charts the key events of Henry Wade's life and outlines the background and experiences that shaped the development of this remarkable man. Born in 1876 as a "son of the Manse", Wade followed his older brother to the new Edinburgh Medical School, where he graduated with honours in 1898. His early progress in Hospital practice was halted by the outbreak of the Boer War. Wade enlisted and was dispatched to South Africa in 1900. There, he encountered unfamiliar infectious or parasitic diseases, unfit, often malnourished British forces which caused high level "non-battle" causalties. Compounding these difficulties were the battlefield injuries caused by new high velocity projectiles. In these formative experiences, Wade accomplished individual acts of heroism and learned important principles of management of military wounds. The account of this turbulent period is brought remarkably to life by the high quality photographs of military detail, hospitals, staff, the immense machinery of the British War effort. A very youthful Wade is engaged in surgical duties.

On his return to Edinburgh, Wade was sponsored by Sir William Turner and Mr FM Caird, to take examinations for the Fellowship of the Royal College. He became Clinical Tutor at the Royal Infirmary of Edinburgh (RIE). Wade's epoch was one of colossal scientific discovery, with advances in X-ray diagnosis, anaesthesia, antisepsis, blood transfusion and resuscitation which rapidly expanded the success and range of clinical surgery. The number of operations increased fourfold between 1878 and 1907 at RIE, involving orthopaedic, abdominal, breast and neurosurgery. Appointments to Leith and RIE followed. A meeting with Dr William Ford Robertson in 1903 stimulated Wade's curiosity about the nature and causes of cancer, then confounded by traditional theories of interplay of body "humours". Wade's experiments addressed a prescient theme of an infective, transmissible element implicated in the pathobiology of some tumours. Within a remarkably short time, he conducted pioneering work that showed that tissue lysates inoculated between experimental animals could promote development of "alveolar sarcomas." He concluded that this form of sarcoma was attributable to a transmissible infective cause, most probably a contagious intracellular virus. This work predated that of Peyton Rous, who discovered that a malignant chicken sarcoma was transmissible by a filterable virus, for which he (Rous) was later awarded the Nobel prize.

By 1914, Henry Wade was an experienced Assistant Surgeon to Leith and the Royal Infirmary of Edinburgh, was Conservator of the College museum and had an outstanding reputation. The outbreak of the Great War led to Wade's reinstatement in the military and he was appointed Captain to the Scottish Horse Mounted Brigade. His experiences in the Dardanelles, Egypt and Syria campaigns is supported by extensive photographic records of military detail, naval and land armaments, engineering feats and field hospitals to provide an important historical document.

After the War, Wade returned to his position at RIE providing many years of service, innovation in urology, teaching and college duties. He married in 1924 was appointed to the Presidency of the Royal College in 1935 and was instrumental in the development of the new National Health Service. He published important manuscripts on urological surgery. He was knighted in 1946 and died in 1955. As a steward of the manifold of Surgery, Henry Wade left a legacy of service, dedication, research and teaching that is commemorated by the Sir Henry Wade Professorship, at the Royal College of Surgeons of Edinburgh. Dugald Gardner's biography is painstaking and draws on Wade's own accounts, letters to understand his life, times, and work. Many photographs, paintings, sketches and drawings have been tracked down, to illustrate the great achievements of this many-sided creative Surgeon. Highly recommended.

FC CAMPBELL

Risk Assessment and Management in Cancer Genetics: Fiona Lalloo, Bronwyn Kerr, Jan Friedman, Gareth Evans (Eds). Oxford University Press, Oxford, UK, 2005. 274pp. £35.00. ISBN 0-19-852960-0

One of the commonest questions to a Clinical Genetics department is "what do I do for this patient with a family history of cancer?" While most departments have guidelines for referral, these are intended to be for quick, easy-view reference. For those many clinicians who would like a little more detail, Lalloo and colleagues have produced this practical text with a worldwide list of contributors.

The introductory section of four chapters concentrates on basic genetics – family history, referral guidelines, genetic counselling and genetic testing. This section gives the non-geneticist an idea of the specialty and emphasises both the advantages and limitations of genetic testing.

Part 2 is devoted to the risk assessment and management of families with common malignancies, covering breast and ovarian cancer, the polyposis syndromes, non-polyposis colorectal cancer and other less common malignancies, such as prostate, gastric and pancreatic cancers.

The final section deals with inherited cancer syndromes – the neurofibromatoses, von Hippel-Lindau, multiple endocrine

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Henry Wade is an apotheosis in British Surgery, becoming a famous and accomplished technical surgeon who followed Lister's footsteps, a renowned clinical scientist, teacher, a war hero and philanthropist. "Surgeon, Scientist, Soldier" by Dugald Gardner charts the key events of Henry Wade's life and outlines the background and experiences that shaped the development of this remarkable man. Born in 1876 as a "son of the Manse", Wade followed his older brother to the new Edinburgh Medical School, where he graduated with honours in 1898. His early progress in Hospital practice was halted by the outbreak of the Boer War. Wade enlisted and was dispatched to South Africa in 1900. There, he encountered unfamiliar infectious or parasitic diseases, unfit, often malnourished British forces which caused high level "non-battle" causalties. Compounding these difficulties were the battlefield injuries caused by new high velocity projectiles. In these formative experiences, Wade accomplished individual acts of heroism and learned important principles of management of military wounds. The account of this turbulent period is brought remarkably to life by the high quality photographs of military detail, hospitals, staff, the immense machinery of the British War effort. A very youthful Wade is engaged in surgical duties.

On his return to Edinburgh, Wade was sponsored by Sir William Turner and Mr FM Caird, to take examinations for the Fellowship of the Royal College. He became Clinical Tutor at the Royal Infirmary of Edinburgh (RIE). Wade's epoch was one of colossal scientific discovery, with advances in X-ray diagnosis, anaesthesia, antisepsis, blood transfusion and resuscitation which rapidly expanded the success and range of clinical surgery. The number of operations increased fourfold between 1878 and 1907 at RIE, involving orthopaedic, abdominal, breast and neurosurgery. Appointments to Leith and RIE followed. A meeting with Dr William Ford Robertson in 1903 stimulated Wade's curiosity about the nature and causes of cancer, then confounded by traditional theories of interplay of body "humours". Wade's experiments addressed a prescient theme of an infective, transmissible element implicated in the pathobiology of some tumours. Within a remarkably short time, he conducted pioneering work that showed that tissue lysates inoculated between experimental animals could promote development of "alveolar sarcomas." He concluded that this form of sarcoma was attributable to a transmissible infective cause, most probably a contagious intracellular virus. This work predated that of Peyton Rous, who discovered that a malignant chicken sarcoma was transmissible by a filterable virus, for which he (Rous) was later awarded the Nobel prize.

By 1914, Henry Wade was an experienced Assistant Surgeon to Leith and the Royal Infirmary of Edinburgh, was Conservator of the College museum and had an outstanding reputation. The outbreak of the Great War led to Wade's reinstatement in the military and he was appointed Captain to the Scottish Horse Mounted Brigade. His experiences in the Dardanelles, Egypt and Syria campaigns is supported by extensive photographic records of military detail, naval and land armaments, engineering feats and field hospitals to provide an important historical document.

After the War, Wade returned to his position at RIE providing many years of service, innovation in urology, teaching and college duties. He married in 1924 was appointed to the Presidency of the Royal College in 1935 and was instrumental in the development of the new National Health Service. He published important manuscripts on urological surgery. He was knighted in 1946 and died in 1955. As a steward of the manifold of Surgery, Henry Wade left a legacy of service, dedication, research and teaching that is commemorated by the Sir Henry Wade Professorship, at the Royal College of Surgeons of Edinburgh. Dugald Gardner's biography is painstaking and draws on Wade's own accounts, letters to understand his life, times, and work. Many photographs, paintings, sketches and drawings have been tracked down, to illustrate the great achievements of this many-sided creative Surgeon. Highly recommended.

FC CAMPBELL

Risk Assessment and Management in Cancer Genetics: Fiona Lalloo, Bronwyn Kerr, Jan Friedman, Gareth Evans (Eds). Oxford University Press, Oxford, UK, 2005. 274pp. £35.00. ISBN 0-19-852960-0

One of the commonest questions to a Clinical Genetics department is "what do I do for this patient with a family history of cancer?" While most departments have guidelines for referral, these are intended to be for quick, easy-view reference. For those many clinicians who would like a little more detail, Lalloo and colleagues have produced this practical text with a worldwide list of contributors.

The introductory section of four chapters concentrates on basic genetics – family history, referral guidelines, genetic counselling and genetic testing. This section gives the non-geneticist an idea of the specialty and emphasises both the advantages and limitations of genetic testing.

Part 2 is devoted to the risk assessment and management of families with common malignancies, covering breast and ovarian cancer, the polyposis syndromes, non-polyposis colorectal cancer and other less common malignancies, such as prostate, gastric and pancreatic cancers.

The final section deals with inherited cancer syndromes – the neurofibromatoses, von Hippel-Lindau, multiple endocrine

In summary this is a fully comprehensive textbook covering all of the major orthopaedic and trauma topics, which would prove adequate throughout the orthopaedic trainee's career and beyond. In the context of what you get for the cost, it should be thought of as an inexpensive addition to the trainee's collection.

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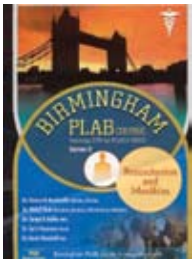
neoplasia, Gorlin syndrome, and Li Fraumeni syndrome, with a concluding chapter on ethical and insurance issues.

As the contributors are from the UK, Europe and North America, there is a noticeable difference in practice. The UK screening guidelines are not the same as those in North America. Criteria for genetic testing also differ. This can be confusing to those who want to get information for their patients, so make sure you have read the relevant chapter. Such variation serves to illustrate that Cancer Genetics is a growing and developing specialty, with criteria for screening and testing liable to change as more information is gathered about the natural history of cancers in high-risk families.

It is easy to find the information you need in this book. Read it from cover to cover if it is valuable to your training or practice (or if you just like the subject) and you will have a comprehensive knowledge of what cancer genetics is about; keep it for reference, dipping into the particular bit you need from time to time, and your clinical genetics colleagues will be very impressed with your knowledge.

ALEX MAGEE

DVD Reviews



Birmingham PLAB Course Teaching DVD Series 3 for PLAB-2 (OSCE): Resuscitation and Mannikins: H Kaukuntla, N Shah, K Addla RSM press, September 2005, £24.95. ISBN 1-315-647-7.

It took me some time to review the Birmingham PLAB Course Teaching DVD, principally because each time I put it into my DVD player, I either lost the will to live, or fell asleep. It's hard to imagine anything more boring or repetitive, unless you are familiar with Big Brother or "I'm a celebrity, get me out of here". To be fair, the production isn't aimed at an opinionated consultant who knows everything that there is to know about everything, but rather is directed at those sitting the PLAB Part 2 (OSCE). The Series 3 DVD covers Resuscitation and practical procedures using manikin simulations in scenarios which the candidate will apparently encounter in the examination. The DVD starts promisingly enough with an introduction followed by practical demonstration of basic life support in adult and child using a resuscitation dummy and following the Resuscitation Council UK standard. These sections set out the principles of basic life support clearly, but the demonstration itself is at a level that I would expect of my first aid volunteers, not qualified doctors looking to join the NHS. There then follow chapters on blood sampling, venepuncture, cervical smear, pelvic, breast and rectal examination, catheterisation, suturing, ear examination, arterial blood sampling, and the use of a volumetric spacer device for inhalers. It's pretty dull, with straight to camera demonstrations by medical staff, who could have benefited enormously from a little media coaching, or possibly a dry run or two. If you need to be reminded of your early life in medical school when an uncertain SHO was sent to take a tutorial, without the benefit of prior preparation time, then you've got the flavour of this DVD. Ditching the suits might have made it look a little more relaxed, and the occasionally demonstrated sweating foreheads made one feel that one was watching real PLAB candidates in test conditions. The production was developed with the aid of a Hospital medical illustration department, so it hardly needs saying that the technical aspects are as one would expect with variable sound levels, wobbly yet stationary camera angles, a clip on microphone whose cable was too short, little or no post production editing and few uses of the many features of the average amateur video camera, to enliven the action. Occasional changes of camera angle, close ups or an illustration or two could have transformed the experience. The sections in which an instructor attempts to describe internal examinations whilst standing in a suit with a hand inside a plastic dummy could certainly have done with a bit of brightening up. Each of the demonstrations include live talks to camera, which are unscripted and could benefit from an overdubbed commentary or a summary of the important teaching points. Whilst the DVD would undoubtedly reassure nervous candidates prior to an examination, it is difficult to believe that any will actually learn from it. Even I found over 5 minutes on a volumetric spacer device something of a challenge. Apparently this is only one of a series of three DVDs for PLAB candidates, the others covering Surgical and Orthopaedic examinations (Series 1) and Medical examinations (series 2). The one positive note must surely be that if these folk could pass PLAB, and produce a DVD, then there must be hope for almost anyone. If the scenarios presented are an accurate reflection of the content of the PLAB OSCE examination, then it doesn't look like it should present much of a challenge to anyone who has successfully completed 3rd year as a medical student. I can't say I would recommend anyone actually buy this DVD, but it might be useful to play it with your friends in the run-up to the PLAB just to confirm that you are ready. Alternatively if anyone has a couple of hours worth of unaired next door neighbours holiday videos they might find them more interesting.

LA MCKINNEY

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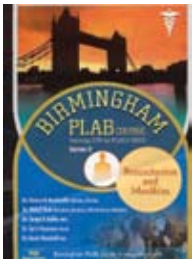

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