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THE ULSTER MEDICAL JOURNAL

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THE ULSTER MEDICAL JOURNAL

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2. Manuscripts should be typewritten with double spacing and with wide margins. They should be fully corrected, and contributors will be responsible for the payment of any sum charged for alteration in printer's proof.

3. References should be restricted to those really necessary and useful. This Journal has used the Harvard reference system. Aware of the burden imposed on authors by the different styles required by different journals it has been decided to support the move by an increasingly large number of major medical journals to the 'Vancouver style'. Papers should now conform. Details appear in the British Medical Journal 1982; 1: 1766-1770 and in Lancet 1979; 1: 429-430. Journal titles are to be abbreviated to the style of the Index Medicus or given in full.

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THE ULSTER MEDICAL SOCIETY

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THE
ULSTER MEDICAL JOURNAL

PUBLISHED ON BEHALF OF THE ULSTER MEDICAL SOCIETY

VOLUME 52 1983 No. 1

THE POOR MAN'S DOCTOR: THE RISE AND FALL OF THE DISPENSARY SYSTEM IN ULSTER

by

MAURICE RUSSELL, MD, FRCGP
Holywood Arches Health Centre, Belfast

Presidential Address to Ulster Medical Society—Session 1982-83

SOME years ago when about to enter the new Holywood Arches Health Centre, I became interested in the origins of general practice in East Belfast.

The earliest name I could discover in the street directories of the last century was that of Doctor James Murray. He had been appointed by the Grand Jury of Down in 1839 to a small dispensary at Bridge End, having received degrees in surgery and medicine from the University of Glasgow and obtained further experience as a temporary physician in the Belfast Fever and Cholera Hospital. Here he lived and practised until his death on the 2nd of February 1862. His original contract had enjoined him to be present at the dispensary for two hours each day to attend to the needs of the sick poor among a population who numbered approximately six thousand. Since no other medical name appeared in the streets of East Belfast until after Doctor Murray's demise I was struck by the endurance of this dispensary doctor.

Why did James Murray and many like him decide to practise among the poorest members of the community, ravaged by smallpox, cholera, dysentery, fever and blindness in addition to all the minor disorders which we see today? Even more interesting was the spirit of philanthropy (or was it ultimate financial gain?) which led landlords, merchants and grand juries to create the first dispensaries throughout Ireland, albeit in a haphazard manner, more than two centuries ago.

I soon realized that if poverty was the raison d'être of the dispensary patient a sizeable proportion of my own practice would have fulfilled the requirement and I

would have been a dispensary doctor with possibly a small number of private patients to make life economically tolerable. And yet I knew nothing about the dispensary system since the arrival of the National Health Service had replaced it, along with virtually all other forms of general practice, in the year in which I commenced my medical studies at Queen's. Subsequently as junior house officers we were amused by odd comments from senior colleagues who had recently laboured under the system and were glad to be rid of it, along with boards of guardians, relieving officers and white and red tickets. It was difficult to believe that they were referring to an important sector of an Irish health service which was more advanced than in England and one of the most advanced in Western Europe in the first half of the 19th Century according to at least one historian addressing a local medical audience as recently as 1968.[2]

The principle of a doctor providing constant medical care to people in the same geographical area for a lengthy period of time, which tends to occur only in these islands and is largely based on the old dispensary system, was one of several other reasons which further excited my interest. I would like therefore to share with you some of the information through which I have been able to catch a glimpse of dispensary medical practice especially in relation to this province. Perhaps it may even have lessons for us today.

EARLY MEDICAL CARE IN IRELAND

The concept of professional medical care and its availability to those in need was nothing new to the native Irish. They had well established rules for the treatment of sick persons in the prechristian era, which was codified in the Brehan Laws. Each practising physician was required to register his credentials and if he was not registered he must give notice of the fact before attempting to treat a patient. Special attention was paid to the care of the aged to ensure that this section of society received all necessary care. In the tenth century A.D. hereditary physicians held sway. Only membership of a medical family entitled a person to the necessary training, there being no medical schools as yet in Ireland. The height of one's ambition was to be appointed physician to a chieftain and those who achieved such status often wrote medical manuals in Latin for the benefit of their less privileged colleagues. The poor and the destitute could go to the nearby monasteries where the monks provided medical care in addition to hospitality until their dissolution under Henry VIII. Such measures however were no antidote to the upsurge of disease which inevitably followed repeated English conquests of the island, each of which created further poverty and malnutrition amongst the local inhabitants.

EARLY RELIEF OF POVERTY

Irish society was not blind to the relationship between poverty and disease and attempted in various ways to relieve the plight of the poor. The Church, in addition to providing medical care, also gave alms to the needy and encouraged its members to do likewise with the proviso that such donations should be given wisely. Needless to say, the numerous beggars at large were only too willing to assist the donors to obtain the blessings of salvation which might be expected to follow such generous action. They made use of prevalent religious and superstitious beliefs by well judged use of the Poor Man's Curse and the Poor Man's Blessing.

Alas, much of the early legislation designed to alleviate poverty tended to persecute the poor rather than relieve them. Thus an Act of 1541 late in the reign of Henry VIII directed how the Aged and Poor and Impotent Persons, compelled to live by alms, should be organised, and rogues and vagabonds punished. In 1612 the Attorney General for Ireland, Sir John Davies, showed more concern for Irish feelings. He criticised particularly landlord absenteeism and the custom of Coyne and Livery which allowed English soldiers to confiscate a farmer's entire profit for the year, with the inevitable result that he could not afford to till his land the following year and was made idle. By 1634 the problem of vagrancy was such that each county was ordered to provide at least one House of Correction for the punishment of rogues, vagabonds and sturdy beggars and other lewd and idle persons. Rebellion followed with eleven years of confiscation and slaughter. Hordes of beggars now roamed the country-side intruding into every house and carrying infection and pestilence to the occupants. Various attempts to enact legislation to provide for the poor in Ireland came to nothing but eventually in 1703 the first Work House was created in Dublin. (In 1721 the death penalty was brought in for vagabonds who broke jail or were at large without lawful cause).

Years later Jonathan Swift the celebrated Dean of St. Patrick's (the author of Gulliver's Travels) addressed his readers on the topic of Irish poverty in the brilliant and biting satire "A Modest Proposal for Preventing the Children of Ireland from Being a Burden to their Parents or Country and for Making them Beneficial to the Public." In this essay the "final solution" ironically proposed was that surplus children at the age of one year should be slaughtered and sold as food. He added drily "I grant that this food will be somewhat dear, and therefore very proper for landlords, who, as they have already devoured most of the parents, seem to have the best title to the children." In 1724 he initiated a campaign to stimulate the consciences of society's leaders. He argued that in a situation where half the population supported themselves by begging only trade could create the jobs to incite people to labour. Begging was the result of many causes—laziness, unemployment, enormous rents for cabins and potato plots, early marriages and the ruin of agriculture. Finally in 1737 because of the failure of the Dublin Work House to give adequate relief to the poor, he introduced a scheme to alleviate the needs of his own district. The poor were badged and received relief in accordance with their needs. The result was judged to be most effective morally. Subsequent legislation recommended the creation of houses of industry in each county and town but these largely failed due to lack of voluntary subscriptions.

A series of House of Commons Committees surveyed the scene in the early nineteenth century. Ultimately a Royal Commission was appointed in 1833 to enquire into the condition of the poorer classes in Ireland and the various institutions already established by law for their relief, and also to ascertain what further remedial measures appeared necessary to alleviate the condition of the Irish poor or any portion of them. After three years of investigation and deliberation it formulated proposals which were forward looking and enlightened, but likely to prove expensive. Unfortunately the English Prime Minister, Lord John Russell, was not pleased with the report. (One finding of local interest was the fact that the counties of Ulster demonstrated less poverty but had a similar degree of destitution with the rest of Ireland). The end result was the Poor Law Act of 1838, creating the

union system of poor relief administered by local boards of guardians, based on the model of the English poor law system.

MEDICAL RELIEF

The need for drastic state involvement in health care for the poor was less compelling. An important step had already been taken in 1765 when the Irish Parliament passed a bill enabling grand juries to provide funds for the provision of infirmaries in each county. About the same time the first tentative steps in the provision of primary care in the form of dispensaries were being taken by some of the landed gentry for the benefit of their tenants and retainers. Their efforts may have been inspired by similar developments in England with which they would still have had strong ties. The English dispensary system had developed from a reaction on the part of apothecaries and some concerned physicians like John Lettson to the neglect of the poor by physicians in the previous century and was intended to produce "Charitable Institutions where medicines were dispensed and medical advice given free gratis or for a small charge."[3]

While the purpose of the dispensaries in the two countries was the same their fates were different. In England the total number of charitable dispensaries at the beginning of the 19th Century was only thirty eight, sixteen of them being centred in London; although more were created, they fought a losing battle with the externs of the increasingly prestigious hospitals. In Ireland there does not appear to have been such rivalry. Furthermore charitable dispensaries were encouraged by an Act of 1805 which allowed grand juries to contribute sums equal to the amount of donations and subscriptions. Thus existing dispensaries might find their income doubled and new dispensaries were encouraged to such an extent that by 1833 they numbered 452. The movement spread from the large estates to the towns with such local examples as Belfast (1792), Coleraine (1797), Cushendall and Ballygawley. Here the initial impetus came from groups of professional and businessmen driven often by their religious convictions to seek out and help those less fortunate than themselves. For example, in Coleraine[4] thirty such people including the Mayor, James Thomson, and nine clergymen set out to collect money for the creation of a "Charitable Association for the relief of the Sick Poor" with an appeal to their townspeople preceded by four carefully chosen religious texts and couched in the following terms:

> "It is a melancholy truth that however deplorable the state of street-beggars may appear, they are not in general the most necessitous. Back streets and lanes exhibit spectacles much more affecting. There the wretched inhabitants are often found languishing under adversity, poverty and sickness, many of whom were once respectable members of society but are now reduced by sickness, and by an honest shame withheld from seeking relief, often forgotten by their relations or having none who can assist them, destitute of friends; and to complete their misery, perhaps without the comforts of true religion which affords the greatest consolation in the day of distress. How pitiable then must their situation be!
>
> These being incontestable facts, a few friends of suffering humanity have for the present formed themselves into a society, each contributing monthly according to his ability; which institution they lay before and beg the assistance of the charitable public."

It was usual for each dispensary to be managed by a committee whose members might be known as governors and which was responsible for obtaining the necessary funds, appointing and paying the medical officer and sometimes an apothecary and providing them with premises from which to practise. Contributors were entitled to nominate suitable destitute persons in need of medical attention and medicine, usually in proportion to their annual contribution to the funds of the dispensary. The medical officer was expected to attend at the dispensary at pre-arranged times to see patients who could come out, and visit at home those who were too ill to do so. He was expected to furnish the committee with an annual report containing itemised details of all expenditure incurred, the number of patients presenting, with or without a summary of the medical conditions treated, and the outcome of his treatment.

From the few records available there seems to have been no shortage of applicants for the posts of medical officer. Either a physician already practising privately in the district would offer his services or a newcomer might be appointed with the expectation of part-time private practice. This dual role could be important in rural districts where the population was thinly dispersed.

From the letters of the Reverend John Moore, the trustee of the Annesley Estate in Castlewellan,[5] it is evident that when Lady Annesley (acting in place of the late Earl) and the governors of the dispensary were considering the appointment of a successor to the retiring medical superintendent, Dr. Hunter, in 1840, they looked for "a person capable of attending to the rich as well as the poor." They had obviously received good attention because the record also stated that it was their "intention to present an address as a substantial mark of their regard because Dr. Hunter (had) been for eighteen years in the laborious situation as Dispensary Doctor (there)." Mr. Moore was already in receipt of a tentative application from a Mr. Falloon who was enquiring about local dispensaries, with a special interest in Newcastle. In his intriguing reply Mr. Moore praises Newcastle but hints at the possibility of a vacancy in Castlewellan where "we have a very good dispensary and the doctor is at present on leave of absence for some months; it has been spoken of that his return here is uncertain." Lest he might appear to be offering the post to Mr. Falloon he is careful to state, "I am in no way bound or pledged to anyone should he resign; my own vote as well as those with whom I am connected here will I hope be given to the most deserving candidate."

Another example of good private management was illustrated by the rules of the Government of the Schools and Dispensaries instituted and supported by the Fishmongers Company of London in their estate in the County of Londonderry. These were printed in a booklet in 1828 and the dispensary rules were twelve in number. Two dispensaries were to be provided, one each for the Northern and Southern districts of the estate administered by separate boards. Two surgeons duly qualified as full surgeons in the Army were to be appointed with an annual salary of £100.00 each, to attend their respective dispensaries for two hours each morning and afterwards visit such patients as were unable to attend. Complaints against the medical officer could result in his dismissal if seven members agreed, the company's agent later receiving a full statement of the grounds on which they proceeded. The patients must produce to the medical officer a certificate signed by a member of the board and must have a fixed place of abode on the company's estate or be a servant or a tenant thereon.

DEFECTS OF CHARITABLE DISPENSARIES

It was inevitable that in a system, based on such a large group of heterogeneous voluntary committees, some of these occasionally found themselves in difficulty in the realms of management and finance. Thus within two years of its creation the minutes of the Ballygawley Dispensary record that the governors and subscribers were unable to pay their surgeon Dr. Wilson when through the dishonesty of the late county treasurer no grant was received from the grand jury.[6] These grants although recommended and usually given following the Act of 1805 were not obligatory until 1836. They depended on priorities as assessed by the twenty four jurors, who were usually leading landowners or their agents appointed by the sheriff of each county to assist the judges in circuit and administer the local government of the county when they met at the assizes. They made contributions to numerous charities including the county hospitals from the fines imposed by the courts.[7] Some of the committees were lazy. Thus minutes of the Rathfriland Dispensary in 1821 record that following a period of slackness due to inertia on the part of both the committee and the medical officer, the members resolved to meet four times in each year.

The death of a benevolent estate owner could cause financial difficulties for the dispensary created by him or his predecessors and others in neighbouring estates. For example, in 1839 following the death of Lord Annesley his trustee found himself in difficulty over the funding of the dispensaries in Castlewellan and Rathfriland.[5] Although the latter was financed by the Meade Estate the two estates provided reciprocal care for tenant workers straddling their boundary. Thus he wrote to his counterpart, apologising for the inability of the Annesley Estate to contribute to either Castlewellan or Rathfriland dispensary but "hoping that when the affairs of the estate were settled these two desirable institutions would be supported by the present Lord as did his father." He concluded, "Whenever your tenants here apply to me I give recommendations to the dispensary in Castlewellan the same as to Lord Annesley's tenants and hope you will be so kind as to do so by those of the Annesley property who apply to you at Rathfriland".

Notwithstanding these isolated criticisms the voluntary dispensaries worked well and were commended by various committees of enquiry. Their large number, however, concealed the fact that there were many areas in Ireland where no such facility existed, which did not go unnoticed during the turmoil of the famine and the periodic epidemics which swept the island.

THE BELFAST DISPENSARY

No consideration of the early voluntary system would be complete without a passing reference to the first dispensary in Belfast. In 1792 a group of concerned people, led by Dr. James McDonnell, along with Charles Brett and Henry Joy from the Belfast Charitable Society, published a prospectus detailing the aims of the dispensary and inviting subscriptions. As soon as subscriptions amounted to fifty pounds the subscribers would be able to nominate an apothecary, two surgeons and two physicians. This small sum was immediately subscribed. The medical staff were appointed comprising two attending physicians, Doctors McDonnell and White, two attending surgeons Messrs. Fuller and McClelland and two consulting physicians Doctors Halliday and Mattear. They later examined candidates for the post of apothecary and in the ensuing ballot Mr. Hull was successful. He was required to

reside at the dispensary, to compound and dispense the medicine prescribed, to maintain a register of the patients, to keep the current accounts and not to absent himself one whole day and night without the sanction of the committee. For this service he received the annual salary of £40.00. The medical appointments were honorary and would subsequently be made by ballot of the paid-up subscribers. Patients could only be seen on the recommendations of the subscriber whose quota depended on the size of his subscription, the minimum of half a guinea per annum entitling him to have one patient on the books at a time. Recommendatory letters were to be sent to the dispensary before 10.00 a.m.

Malcolm reflected that "It was not to be expected that the significant sum called for would be sufficient to institute these varied plans though to the honour of the profession, be it ever remembered, that body upon which rested the entire success of every part of the scheme warmly co-operated to carry out the entire undertaking regardless of all trouble and the sacrifice of valuable time. It is also pleasing to observe with what unanimity the leading merchants and professional men laboured for the common good and how partners of all ranks and of all political and religious creeds acted in harmony and mutual goodwill."

At its initial premises consisting of a house with six beds for fever patients in Factory Row, later Berry Street, the dispensary became very popular. During the first four years of its operation out of 2,406 patients who received medical and surgical advice and medicine, 1,740 were pronounced cured, 336 relieved, 50 dismissed as incurable and 280 either died or made no report.[8] The cost per patient was four shillings and four pence, which compared favourably with returns from the Public Dispensary in London for the year 1792 where the comparable figure was five shillings and one penny.[3]

Frequent outbreaks of fever and an expanding population demanded the creation of more accommodation. This was accomplished by moving the dispensary and fever hospital to two houses on West Street beside Smithfield Market and later in 1817 to the new hospital in Frederick Street, the future Belfast General Hospital. The dispensary functioned at the back of the hospital, preserving the unity of identity between the general medical care of the poor in the community and the more specialised medical and surgical facilities developing within the hospital. The same year saw the onslaught of a particularly virulent form of typhus which stretched the resources of the new hospital to its limits. The incalculable value of the dispensary at this time was referred to in the Belfast General and Commercial Directory of 1819 as "proving of the utmost importance to the industrial classes of society," who together with the poor bore the brunt of the epidemic.

When it was ultimately incorporated in the poor law system it had served its purpose nobly. Its medical attendants had included many names associated with the Belfast Medical School, since from 1832 it had been a requirement that any doctor wishing to become a visiting physician or surgeon to the hospital, must have served at least three years as a dispensary attendant. It had also become an important source of patients for the teaching of medical students who had the privilege of seing the early stages of illness, as they do today in the teaching practices associated with Professor Irwin's Department of General Practice.

THE MEDICAL CHARITIES ACT (1851)

The epoch of the charitable dispensary was rapidly coming to an end. The Poor Law Relief Act of 1838 had provided machinery for the relief of poverty throughout the country by the creation of unions which were administered by boards of guardians, responsible to the central authority of the Poor Law Commissioners. A union district was composed of a manageable number of electoral divisions and each board of guardians consisted of elected and ex-officio members, the latter drawn from local justices of the peace, assistant barristers and clergymen. If it was inefficient it could be dissolved by the Commissioners, who could appoint paid officials instead.

Relief which was funded from the local rates was provided only within the workhouses at the discretion of the guardians lest any poor person, however destitute, should think that it was his statutory right. Preference was given to the aged, the infirm, the handicapped and children, with priority to those within the union boundary. The workhouses were built (to a standard design) with amazing rapidity throughout the one hundred and thirty unions and even as soon as 1842 there were 37 workhouses, containing 115,000 inmates.

This scheme formed the basis of the poor laws in Northern Ireland until 1948. It was not yet considered necessary to include medical relief within its scope, largely because of the extensive network of county infirmaries and fever hospitals and the 452 charitable dispensaries already in existence. The next decade was to test it to the full. Escalating distress due to crop failures punctuated by sporadic outbreaks of cholera and typhus culminated in the famine of 1846 to 1847. Although the northern counties suffered less than other areas, probably because the people here included not only the potato, but oatmeal in their staple diet, the rest of the country was less fortunate. It was necessary to supplement many of the workhouses with additional accommodation which was often deficient in sanitation, thus adding to the effects of poor nutrition and resulting in a high mortality rate among the inmates and officers. By 1851 the population of Ireland had fallen from an expected nine million persons to six and a half million. Following these events the need for more uniform medical care in the community was clamant. The same problem in England had been dealt with according to the Poor Relief Amendment Act which empowered the unions to provide both poor relief and medical relief, by appointing doctors to see patients in the workhouses or in their homes.[9] Thus to obtain treatment the patient had to be declared a pauper, or alternatively pawn his goods for the five shillings consultation fee or do neither.

The Irish Poor Law system managed to avoid this ignominy. In 1851 the Medical Charities Act was passed to provide for the better distribution, support and management of medical charities in Ireland.[10] It provided a complete machinery for domiciliary medicine throughout the country, by extending the relief hitherto only available in workhouses, county infirmaries and the charitable dispensaries, to all who needed it.

The top tier of the administration was already in existence in the form of the Poor Law Commission, which was strengthened by the addition of two more commissioners; one of these was to be a physician or surgeon of not less than ten years' standing with the title of Medical Commissioner. The Commissioners were to appoint as many inspectors as the Treasury would allow, who must be physicians or

surgeons of not less than seven years' standing to assist in the carrying out of the Act. Neither the Medical Commissioners nor the inspectors could continue to practise in any professional capacity.

The boards of guardians provided the second tier. They were instructed to divide their unions into dispensary districts commensurate with local geography and population needs. The cost of all medical relief afforded within each dispensary district, together with all the salaries and charges incidental to the same, would be charged on the poor rates of the appropriate electoral division. The Commission set the standards of qualification and the number of the officers to be appointed to the service of each dispensary district and the number of persons comprising the committee of management of the district.

The District Dispensary Committee provided the third tier of management. Its size was determined by the Commission according to the needs of the district and it was elected by the guardians from owners or occupiers of property in the district along with any local guardians and it held office until after the next annual election of guardians when the new committee was appointed. The guardians were also responsible for providing premises from which the medical officer could practise and in which the management committee could meet, as well as medicines and medical appliances for the needs of eligible patients. The committee on the other hand appointed the medical officer whose qualifications were determined by the Commissioners who could remove him if the grounds were sufficient and direct the committee to appoint a replacement, or appoint one directly if it failed to do so.

A person's entitlement to treatment depended on the issue of a ticket by a member of the dispensary committee, a relieving officer, or the warden of an electoral division included in the district, directing the medical officer to provide him with medicine and advice (in that order) or attend him at home. A home visit was meant to be a rarity, obtainable only with a red ticket; such calls were not popular, partly because of the risk encountered by the relieving officer and doctor when entering the filthy environment of the patient. A ticket could be cancelled by a majority of the committee at its next meeting if they thought the holder was not a fit object for dispensary relief.

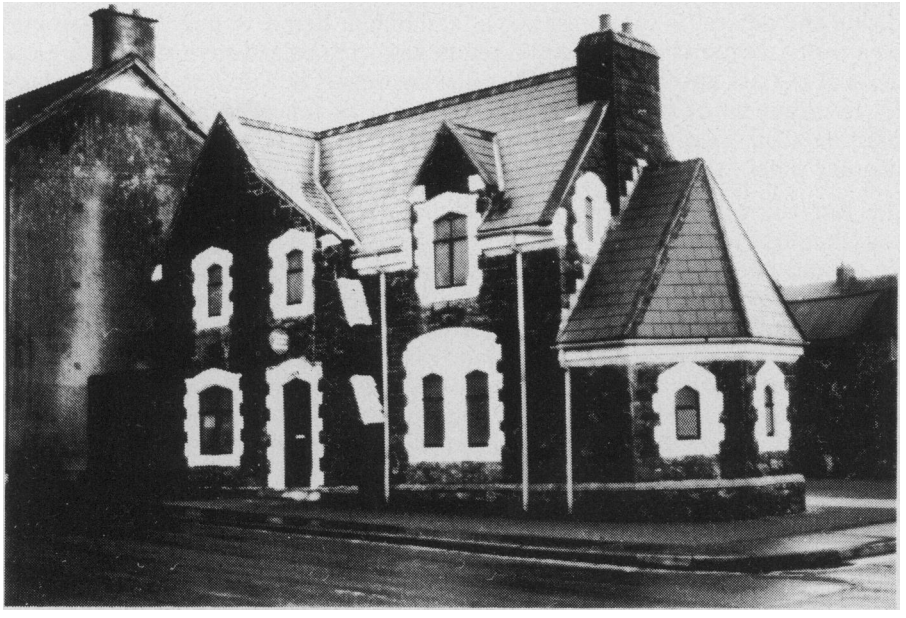
The Act laid other statutory unpaid duties on the medical officer, such as the vaccination against smallpox of anyone in the district who requested it. He had to examine and certify dangerous lunatics who were brought before justices of the peace and provide medical care for the inmates of bridewells and houses of correction, and these duties were considered in fixing his salary. Standards were to be maintained by the right of inspectors to visit dispensaries at any time and attend the meetings of boards of guardians and dispensary committees in which they could take part but not vote. The incorporation of the existing charitable dispensaries under the new system was to be completed by the appointment of existing medical officers to the new districts provided they were approved by the Commissioners.

Thus began a new chapter in the medical care of the numerous poor in Ireland. It drew much of its inspiration from the best examples of voluntary dispensary care already in existence. Above all it did not reduce the patient to the status of a pauper since the dispensaries were usually separate from the workhouses and managed by their own committees.

Subsequent alterations in legislation included the abolition in 1872 of the Poor Law Commission which was replaced by the Local Government Board with broadly the same powers. In 1878 the Public Health Act added the status of district medical officer of health to the role of the dispensary medical officer, with an additional salary of five, ten or in rare cases thirty pounds per year. Within the Local Government (Ireland Act) of 1898 the boards of guardians ceased to be rating and public health authorities. The dispensary committees were also abolished and their power and duties transferred to the boards of guardians. The close contact between the local committee and the doctor, chosen carefully by them since they would be dependent on him for attendance on them and their families, thus ceased to exist, leaving the doctor to the mercy of the boards of guardians who were more likely to be influenced in their decisions by political or religious motives. On the other hand many dispensary committees had ceased to function through the neglect of their honorary officers, seldom meeting unless an appointment was to be made. Following the creation of Northern Ireland in 1920 the control exerted by the Local Government Board was transferred to the Ministry of Home Affairs.

LOCAL ORGANISATION

Like most far reaching pieces of legislation the 1851 Act took time to settle down. At the beginning the unions must have depended heavily on existing dispensaries and their medical personnel, filling the gaps as needs grew and finance became available. Twenty five years later the twenty eight union districts of the six counties, which were later to become Northern Ireland, were responsible for fully functioning dispensaries in one hundred and ninety two districts.[11] The number of medical



The "Old Dispensary" in Mount Street, Ballymena, built in the 1860s.

officers employed was one hundred and sixty two with usually one to each district. Large districts notably in Belfast might have several stations with more than one medical officer per station, whereas over sparsely populated districts, one medical officer might look after several stations. Greyabbey, for example, had one medical officer for three stations. In 1875 most of the medical officers received £100 per year for their services, some more, some less. Thus the doctor in Armagh received £150 because he also served the prison and the asylum, whereas his colleagues in Caledon received only £60.

ADMINISTRATION—CHOLERA EPIDEMIC OF 1853-1854

The administrative structure of the new system was soon tested. At the meeting of the British Association in Belfast in 1852, Malcolm had read a paper predicting the probability of a third outbreak of Asiatic cholera in the British Isles, based on his observations of the poor sanitary state of Belfast. Rural sanitation was no better. A report of the Honourable Irish Society in 1836 describes the conditions under which many of the peasants on its estates were living, as follows: "It is now too common for the parents and children of both sexes, even adults with other individuals composing the family, to huddle together in one room or hovel, and it not infrequently happens that to these are added the pigs, poultry and other animals; in the outside, immediately at the threshold of the door a space is hollowed out to receive filth of every description, called mixings, which is applied for manuring the ground for potatoes, and disgusting as this appears to the sight, the stench arising from these fermentations of their putrescent matter is still made obnoxious and offensive and must necessarily be most injurious to the health of the inhabitants."[12]

Malcolm's prophecy was fulfilled when cholera appeared among immigrants on board ships in Belfast Lough in 1853. It spread throughout Ireland during the following year. The fact that it was considered less severe than previous outbreaks may be due to the early diagnosis and management of cases by dispensary medical officers among the most vulnerable members of the community, and the prompt notification of cases to the Poor Law Commissioners.

Throughout the year medical inspectors were busy in Ulster, following up requests from the Commissioners to visit affected union districts, reporting the results of their discussions with dispensary medical officers and recommending appropriate measures to prevent further outbreaks.[13] One of them, Dr. Alexander Knox, featured in the investigation of outbreaks as far apart as Londonderry, Portaferry, Armagh, Ballylesson and Portglenone, in addition to his routine inspections of dispensaries under his control.

Some of the newly appointed dispensary medical officers were unaware of their obligation to notify the Commissioners. Dr. Miller in the Ahoghill Dispensary commences his letter to these gentlemen: "I beg to inform you that a case of cholera has occurred in this district which I was not aware it was my duty to report to you until I read your instructions on the subject today in the Annual Report for last year. I therefore hasten to report to you the symptoms of this case, hoping as no other case has since occurred that the omission will not be deemed by you as serious neglect of duty." In Ballynure we find Dr. Knox reprimanding the dispensary medical officer for not reporting six cases among his private patients, the excuse being that no case had occurred recently in his dispensary practice.

The correspondence between the medical officers, commissioners and inspectors suggests that the medical officers took their responsibilities seriously, displaying fine clinical detail and home care of the highest order. The following extract is from a letter from Dr. Filson of the Portaferry Dispensary District to the Commissioners.

> "I wrote to you yesterday with regard to a case of Cholera which I was called on to attend and now submit for your information the following particulars: Phelix Smith, aged fifty years, a labourer, and inhabitant of Portaferry, had been at work on Friday and Saturday last in the town, and seemed in his usual health. His family, six in number, had all been in good health and still are so. On Sunday morning he was attacked with purging, which continued severe all day; evacuations watery and whitish; great thirst, but not much pain; vomited for the first time about nine o'clock on Sunday evening, and continued to do so at short intervals during the night; bowels purged at same time; great thirst, which he appeased by drinking large quantities of cold water, and which was rejected, mixed with whitish flacculent matter; unable to leave the bed when purged; had no medicines of any kind, and made no application for advice till ten o'clock on Monday morning. When visited, found him labouring under the symptoms above detailed; examined the evacuations, and found them rice-water like; pulse small, and about 100, tongue pallid and moist, skin of face dusky, features sharp, tip of nose cold, praecordial oppression, great debility, and no urine voided during the night; whispering sound of voice, so characteristic of the disease; no cramps or spasms.
>
> Immediately gave him two pills, each containing one gr. opium and two camphor, and half an hour after a draught containing aromatic confection, spirit ammon, and camphorated mixture, tins and jars containing hot water to the stomach and extremities, additional blankets, and for drink, whiskey largely diluted with cold water, in small quantities. The pills and draught were retained on the stomach."

Dr. Filson visited the patient every hour during the day and returned the next morning at six o'clock, when he was able to report:

> "He has continued easy and free from any unfavourable symptoms during the night; towards morning, voided about half a pint of urine; did not see it. He feels languid; pulse 80, and weak; tongue clean, thirst abated; skin comfortably warm; voice resumed its usual character; has taken a cup of bread and water; ordered a pill containing three grains calomel and half grain opium.
>
> One o'clock;—Has had one motion from the bowels, tinged with bile. The rest of the family, six in number, are at present all well. The house in which they reside is very small, and not sufficient accommodation for so large a family. The Dispensary Committee have afforded me every assistance in their power. I have the honour to be your obedient servant,
> Alex. B. Filson."

MORBIDITY

Details of the large range of illness seen and treated by the dispensary doctor can rarely be found. According to his terms of service he kept a treatment register and made an annual report to the management committee of the charitable dispensary or

the subsequent union dispensary. Few of the registers seem to have survived but those available for Belfast and Ballygawley suggest that their main function was to provide statistics of the numbers treated and the cost of items of service, culminating in the cost per patient.

Annual reports should provide fuller details of morbidity but they are even more difficult to locate especially where the committee was careless and the doctor did not submit a report. However, in 1850, in his penultimate report before the Rathfriland Dispensary was transferred to union control the medical officer, Mr. Samuel Swann, MRCS, LAH, gives some insight into the problems in his district when he states:

> "Independent of the diseases which are generally the most frequent at this institution and which may be called the staple diseases of Irish Dispensaries namely — fever, rheumatism, dyspepsia, cutaneous affections, diarrhoea, dysentery, pulmonary and bronchial inflammations, there are but few others which deserve any particular notice. There is not more than the usual amount of fever and the cases were usually of a mild type."

Referring to his success in vaccinating people against small pox he remarks:

> "I feel happy in being able to state that the prejudice being entertained by some against vaccination is fast giving way and I trust that before many years are gone by that the disease will only be known by name in Great Britain."

The following year Dr. Phillips, in the Ballygawley Dispensary,[6] reported to his committee that he attended 1466 patients during the year, of whom 1092 were cured, 211 relieved and 42 died. He had 2 cases of anthrax, 5 of smallpox, 83 of fever which in Tyrone meant either typhoid or typhus, 9 of scarlet fever, 30 with measles, 12 with whooping cough. 40 wounds were dressed, acquired mostly in the fighting fairs, 73 operations were performed because there was no hospital and 241 children vaccinated.

These figures can be compared with those for the Cushendall Dispensary during the 2 years from 1832-34 in which 863 cases of extraordinary variety were treated.[14] The 33 commonest disorders are listed in Table 1 with 10 or more examples of each. 60 less frequent disorders also feature in the report of which 26 appear in Table 2.

Most of them can be found in any general practitioner's surgery today. Some we no longer thankfully see, like typhus, scrophula, dolor post partum and ophthalmia. Some of the names no longer exist, like opstipatic, rubeola, pyrosis. Otilis, anaserea and cynariche are probably mis-spellings of otitis, anasarca and cynanche. The latter was an upper respiratory infection especially common during periods of famine.[15] While no valid comparison can be made with morbidity in general practice to-day some apparent differences are striking, for example, the low incidence of heart disease (1.3 per cent), the relative preponderance of pleurisy (3.7 per cent) over bronchitis (2.3 per cent) and the low incidence of rheumatism (1 per cent). The smaller number of patients treated in the Cushendall district, 863 cases in 2 years, compared with Ballygawley, 1466 in one year, may have been due to numerical differences in population but a more potent factor may have been the health and longevity of the people of the Glens. Thus James Boyle's memoir of 1835 observed that in the previous two years two persons had died, "one at the age of 105 and the other 100 years; in the old churchyard in one grave were buried a grandfather, his

TABLE 1

Cushendall Dispensary 1832-4

Problems in 10 or more patients

Vaccination	76	Lumbago	14
Vermes	56	Rubeola	14
Dyspepsia	40	Odontalgia	14
Typhus	37	Asthma	13
Pleuritus	29	Leg Ulcers	13
Psoriasis	24	Accouchment	12
Abscess	21	Pyrosis	12
Opthalmia	20	Dolor Postpartum	12
Sprains	20	Dysenteria	10
Scrophula	20	Dislocations	10
Catarrhus	18	Debilitas	10
Bronchites	18	Fractures	10
Hepatitis	18	Phlegm	10
Opstipatic	18	Palpitation and Heart	
Burns and Scalds	16	Disease	10
Vertigo	15	Ringworm	10
Diarrhoea	15	Wounds	10
TOTAL PATIENTS	863	TOTAL PROBLEMS	93

TABLE 2

Cushendall Dispensary 1832-4

Further Diagnoses

Rheumatism	9	Pertussis	5
Menorrhagia	7	Pneumonia	5
Otilis	7	Syphilis	5
Cephalgia	6	Splenitis	5
Cynariche Tonsilaris	6	Whitlow	5
Parotidea	6	Ascites	4
Haemorrhois	6	Entiritis	4
Hernia	6	Gonorrhoea	4
Neuralgia	6	Inflammation from	
Hysteria	6	Laceration	4
Anaserea	5	Sciatica	4
Colics	5	Tinea Capitis	4
Nephritis	5	Diseases of Urinary Organs	4

son and grandson whose united ages amounted to 284 years." Several persons aged 90 were then living in the parish.

As always there were some who found time for research in the midst of their dispensary duties. Dr. Forbes, while Dispensary Doctor in Penzance, was one of the

first physicians to use Laennec's stethoscope in England, producing several publications on the subject. In Londonderry Dr. Cuthbert in the Glendermott Dispensary investigated the effects of Caisson Disease among divers involved in the building of the new bridge over the Foyle.[17]

MEDICAL GRIEVANCES

Our profession has never taken kindly to direction from the agencies of government. The good will of people like McDonnell who not only served the dispensaries but in some cases created them seems to have declined somewhat after the introduction of the Medical Charities Bill. The Irish Medical Association founded 12 years earlier in 1839 had foreseen the dangers of central direction inherent in the Bill but failed to involve itself in the necessary negotiations to secure reasonable terms for the profession.[18] This inertia may have been due to the advancing age of its President Richard Carmichael and his subsequent death in 1849. Although the medical attendants of the fever hospitals and the dispensaries formed their own organisation in 1849 it was already too late for them to be effective in removing many of the faults inherent in the Bill. The Irish Medical Association subsequently worked actively to improve the lot of the dispensary medical officer. In 1863 when the average salary was between £50 and £70 per annum they were campaigning for a minimum salary of £100. Pension rights were also demanded culminating in the first Superannuation Act passed in 1865.

When the Public Health Act of 1878 gave the poorly paid title of district medical officer to the dispensary medical officer but failed to define these duties clearly, the Association stressed the need for adequate remuneration for the work which was intended to carry considerable responsibility; on this occasion it was not successful. O'Connell in his presidential address to this Society,[19] described the dilemma facing the dispensary medical officer whose salary for both duties was merely a retaining fee, forcing him to secure a paying practice according to local conditions. Since the unfortunate doctor could find himself obliged to prosecute offenders against the Public Health Act who were his most affluent private patients, it is little wonder that the public health needs of the community were often ignored.

Hopes for a better deal were raised by the appointment of a Vice-Regal Commission in 1906 to advise on poor law reform in Ireland, which ultimately recommended the establishment of a state medical service. This and other progressive suggestions were, however, shelved when a Royal Commission on the Poor Law, dealing with both Great Britain and Ireland, was appointed before the Vice-Regal Commission could submit its report.

Although the medical officers had been apprehensive when the dispensary committees were disbanded and their functions taken over by the boards of guardians in 1898, the Local Government Body exerted firm control and increasingly ensured that the guardians gave more realistic salaries to their medical officers. It also minimised the abuse by guardians and wardens in the issue of tickets to people who were able to pay the very moderate fees charged to lower paid workers. By comparison the failure of the Ministry of Home Affairs in Northern Ireland to act as firmly when it assumed the powers of the Local Government led to considerable dissatisfaction amongst local medical officers in Ulster.

Although a Departmental Commission on Local Government Administration reported in 1927 that the dispensary system was functioning soundly and should be retained,[20] its usefulness was gradually coming to an end in Northern Ireland.

Lyle writing in the Ulster Medical Journal in 1937 described vividly the frustration and disillusionment of the Poor Law Doctor.[21]

> "He is on duty for twenty four hours a day seven days a week during forty eight to fifty weeks a year and is at the beck and call of every Tom, Dick and Harry who can get a ticket to commandeer his services; it is not difficult to obtain these, seeing that they are on issue by wardens and guardians who are in many cases grocers or publicans and who dispense them as bonuses with quarter pounds of tea or bottles of stout irrespective of the medical needs or financial circumstances of the applicant."
>
> "Any time which he may have to spare from his official duties is necessarily taken up with the attempt to earn a living for himself and his family by private practice, his official salary leaving but little margin after his necessary professional expenses are defrayed."

Like the general practitioners today, he found that his workload had steadily increased, for which he identified several causes. The main factor was the gradual elimination of the small farmer, who had employed no labour outside his own family, all of whom paid for their treatment, and his replacement by the larger farmer whose employees were all poor law patients. The original Act of Parliament had not defined a poor person and yet the dispensary doctor was obliged to attend free of charge all poor persons, an obligation which was not lost on many who were above the poverty line. Yet another cause was the reversal in ratio of requests for home visits to consultations at the dispensary. Earlier reports to the Local Government Body indicated a ratio of one to two, whereas at least two thirds of Lyle's consultations were home visits, often requested at night. Like O'Connell he also found that his public health duties resulted in the loss of private patients when he drew attention to the unsanitary state of their property, and cited some of the guardians as the worst offenders.

CONCLUSION

Such comments were not merely the complaints of a disgruntled poor law medical officer, jealous of his colleagues in the Free State who appeared to have been treated more fairly by the prevailing system. As society progressed the dispensary system had become an anachronism. A potent factor was the eventual implementation in 1930 of Lloyd George's National Insurance Act,[22] providing most of the less affluent workers with a doctor of their choice in return for a small insurance contribution which gave the doctor a more realistic income for his services. The logical consequences was an extension of this scheme to the dependents of all insured persons and other poor persons, who would have free choice of doctor, in return for which the doctor would be paid a realistic capitation fee and receive compensation for loss of office and be relieved of his duties as district medical officer of health. The dispensary system was incorporated into such a scheme with the advent of the National Health Service in 1948.

Few will have regretted its passing. To the doctor, administration by the Northern Ireland General Health Services Board must have seemed pleasurable compared

with some of the boards of guardians while the patient was no longer required to prove his entitlement to treatment. Perhaps most significantly, in the first year of National Health Service approximately 740 general practitioners decided to provide general medical services under the scheme compared with a total of 160 dispensary medical officers in post at the changeover. In the same year 96 per cent of the population had registered with doctors of their choice.[23]

Although dispensary physicians like Dr. Murray might find little in contemporary general practice to compare with their experience, their achievements must seem to us to have been all the greater. Take for example Dr. William Smyth whose memory is revered by our Society in the stained glass window of our library.[24] A person of exceptional courage and strength, he was appointed to the dispensary at Burtonport in 1882, his predecessor having died from typhus which frequently visited Donegal in the autumn. In October 1901 there was another outbreak of typhus affecting a labouring family on the island of Arranmore, one of whom had acquired the infection when harvesting in Scotland. No one would help the family or assist Dr. Smyth to visit them so he rowed the three miles there and back each day, often laden with food and drugs. Eventually he decided that they needed attention in hospital. This involved the purchase of a larger boat, which, although unseaworthy, was sufficient to enable him with the help of a colleague to row his patients to the mainland, where a waiting ambulance conveyed them to the hospital at Glenties. His task completed he set off to enjoy a few days' respite at the Glasgow Fair. Although he believed himself to be immune from typhus, he was already infected and became ill on the journey; he returned home early to have the diagnosis confirmed by his neighbour Dr. Gardiner. The illness progressed rapidly and he died from pneumonia 12 days after the appearance of the first symptoms.

Our Society rightly honoured William Smyth, but perhaps as today only the patients were capable of evaluating the true worth of the dispensary physician. I shall leave it to an editorial in the Irish News of the 20th July, 1937 to speak on their behalf:

> "The dispensary medical officer may not have the glamour of the surgeon or the renown of the specialist. He may be one of the forgotten men of medicine, moving obscurely about a country district on an unremitting round of duty, night and day, in fine weather and in foul, his name achieving the accolade of print but once a year, when he applies for his annual holidays to the local board, but ultimately he is the guardian of the health of the people.
>
> These men often lead an arduous life, harassed by circumstances, red tape, ignorance, but on the whole they put a lot more into their work than they ever get out of it, do a lot more than they are ever thanked for, perform wonders in adversity that are forgotten at soon as they are done.
>
> They are the servants of the poor, outposts against disease, indispensable units of our social organisation."

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PATIENTS—A VIRTUE?

by

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Annual Oration at the opening of the 1982-83 Teaching Session, Royal Victoria Hospital, Belfast

TO-DAY it is my privilege to address you on behalf of my colleagues on the medical staff of the Royal. The giving of an oration, as it is now called, at the beginning of the winter term, is sanctified by a tradition extending backward in time for more than 150 years. It is customary to welcome, in particular, those of you who have recently begun their clinical studies, and this I do with great pleasure.

The choice of orator is not made by election, nor by selection, but by direction on the basis of sequential seniority. Seniority, the word itself, has an ominous ring for the young, indicating, as it may occasionally do, survival rather than achievement, a state sustained by the aphorisms and inexactitudes of the past. In medicine, as in other aspects of life, the gap between generations is wide, and widening; the giving of advice across this divide, except in the most general terms, is not always useful, and is seldom tolerated. Perhaps Lord Chesterfield had this in mind when, in a letter to his son he wrote; "Surely it is of great use to a young man, before he set out for that country full of mazes, windings, and turnings, to have at least a general map of it, made by some experienced traveller".

One may say, then, and slightly to misquote WB Yeats; "This is no country for old men', and it is therefore gratifying to see so many, even too many, young men and women ready, willing, and certainly able to undertake this journey, or pilgrimage, for such it is.

For this endeavour, each of you is endowed with different talents, none of which is too humble to be of value in the exercise of your chosen profession, nor too exalted to be beyond its requirements. It is the function of your teachers to help you to recognise and develop these talents, in the relatively short time which remains to you as undergraduates. Much of this time will be spent in this hospital, and in that part of the medical school associated with it. In discussing the relationship between these institutions Osler, writing in 1892, emphasised the "necessity of ample, full and prolonged clinical instruction, and the importance of bringing the student and patient into close contact, not through the cloudly knowledge of the amphitheatre, but by means of the accurate, critical knowledge of the wards".[1]

Oscar Wilde's dictum that nothing which is worth knowing, can be taught, yet bears the corollary that it may be learnt. Such learning is an active process requiring enthusiasm, persistence, and, above all, interest on your part, though with sufficient exposure to the clinical scene some passive absorption of knowledge, and even wisdom, may also occur. The alternative to learning is the acceptance of forced feeding, leading, at best, to an uncomfortable feeling of satiety, or, at worst, to the regurgitation of undigested material, often on inappropriate occasions.

You may find that your early visits to the wards are embarrassing and difficult, steps into an unknown country. You will encounter, but not necessarily be welcomed by, the sister in charge and her nursing staff. They are not the doctors' handmaidens, but professionals in their own right who have served a long clinical apprenticeship. The knowledge you will acquire from them will help you to understand the overall care of the patients, and the advice you receive will prevent you from making, as doctors, many false assessments, and foolish decisions. Is it not strange, therefore, that the sister in our hospital wards who is, if anyone is, indispensable, should be at number six in a scale of ten, little more than half way up that awkward "salmon" leap? Those of you who look forward to a rewarding career in hospital medicine must ensure, if they can, that the particular status of ward sister be not further eroded, but indeed be enhanced.

The key to learning is observation, accurate and thorough, a faculty which is poorly developed in most medical students. Before looking, however, you must listen to the patient, and comprehend what he is trying to tell you. Sir George Pickering, in retirement, recalls that he used to tell his students "the patient is anxious to tell you a story, and it is your duty to repeat that story in language that you understand, that the patient understands, and that I understand. As the King advised the White Rabbit, begin at the beginning, go on to the end, and then stop".[2] The only requisites for the teaching of clinical medicine are patient, student, and teacher, regardless of whether they come together in a hospital ward, or a doctor's consulting room. Your instructors are, first and foremost, clinicians of very varied teaching ability, style, and temperament; such variety is advantageous, if you are to make your own assessment of what you have learnt. The correct approach to the patient, the gaining of his confidence, and the maintenance of that confidence through a long and trying illness, these are things that you must work out for yourselves from the examples set before you.

Robert Graves, born in Armagh at the end of the eighteenth century, introduced a method of teaching upon which the system of clinical clerkships is largely based. He used to entrust the care of particular patients to his senior students, requiring them to report to him the origins, progress, and present state of their disease. Such a laudable ideal is difficult to follow to-day, owing to the large numbers of students passing through the wards, and to the heavy clinical commitment of many of their teachers. In addition, the rapid and continuing advance of scientific knowledge requires that the student be involved in a programme of systematised teaching which, while it may be criticised as to detail and content, cannot be drastically curtailed. Indeed, we may be too ready to jump on the 'back-to-the-bedside bandwagon'; there were no good old days, and even if there were, they will not come again. Dickinson Richards, as Lambert Professor of Medicine at Columbia University, New York, highlights an inconsistency in our attitudes to changing times, and I quote; "For our students, we have thrown the lecture into outer darkness, as an outworn remnant of an earlier pedagogic era; but for ourselves, we teachers continue to lecture each other, almost incessantly. We dash all round the country, indeed half way around the world, winter and summer, spring and fall, leaving our appointed tasks, such as teaching students. And when we get there, what do we do? We sit down and listen to lectures, or worse still, we stand up and give them".[3] These comments were made in 1953, before jet propulsion became a

significant force in the propagation and exchange of medical knowledge; they are certainly no less true to-day.

The process of learning is a combination of selective sensory input, analysis, storage, and recall. Of the senses, the olfactory is certainly the most evocative, followed by the visual and the auditory. The elusive and nostalgic aroma of phenolic disinfectants, and the cleanliness it implied, has long since gone from our hospital, to be replaced by the not so sweet smell of decay; the visual images of the patients with whom you have been in contact, and whose care you have followed, however, will remain with you long after the drone of the lecturer's voice is forgotten.

The concept of the doctor and his patient stretches back into the distant past; that of the patient and his doctor is nebulous and ill-defined. The doctor, even an activist, has maintained a definite, if variable, place in the society in which he lived, had not been notable for his humility, and has readily proclaimed his theories of disease, and infallible cures for everything from fluxes to fevers, and poxes to peptic ulcers.

Conversely the patient is a passivist, the word itself deriving from a Latin intransitive verb 'to suffer'. In English, the word has two separate definitions, firstly, as a person receiving medical care, and secondly, as being capable of accepting delay with equanimity. Combined, these definitions describe, with some accuracy, those sitting in silence in a doctor's waiting room, or enduring the more solemn camaraderie of the casualty benches. To these may be added others whose names are entered, and lie forgotten on the waiting lists of our hospitals.

The oft-quoted verse from Ecclesiasticus; "Honour a physician according to thy need of him" has a less sychophantic and more practical meaning if the original Hebrew version is consulted; it then reads; "Acquaint thyself with a physician before thou have need of him". It is only since the inception of the National Health Service in 1948 that every citizen could avail himself of this advice, and it is the basis of family medicine to-day. Dr Ian McWhinney, in his recently published book, defines the nature of this contract: "The commitment of the family doctor to the patient has no defined end point; it is not terminated by cure of an illness, the end of a course of treatment, or the incurability of an illness. In many, if not most cases the commitment is made when the person is healthy, before any health problem has developed".[4] Borne along, as we are, on a tide of change, it may be useful to try to see ourselves as our patients see, and have seen, us, and to recall something of their suffering, resilience and expectations over the passing years.

Concepts of health care in both the Innuit and Indian communities in Northern Labrador, prior to European colonisation, were reviewed by Sarsfield in 1977.[5] Health was considered to be an individual strength, with the needs, sanctions, and support of the group coming to bear in a specific illness situation. Those responsible for healing were of the same culture as the sick, and the alternative of employing a foreign or unfamiliar healer was inconceivable. The Indian medicine man and the Innuit shaman combined the roles of mayor, doctor, and priest in to-days society. These healers were obviously totally familiar with the culture and customs of the people, were skilled at psychosomatic diagnosis and therapy, and were practical pharmacists who understood the empirical properties of a multitude of plants, berries, roots, and herbs. The key factor was that medical care was by the people, and not to them, and was an integral part of their way of life. With the coming of

Europeans, and their gradual assumption of responsibility for the spiritual and physical care of the native people, a new conflict became apparent. The old beliefs came under attack, as they were perceived to stand in the way of conversion to Christianity, and to the acceptance of civilisation. History has shewn that these terms are not necessarily synonymous, nor is their active propagation necessarily beneficial. The Indian and Innuit healers were caught up in this conflict, with their interrelated gods, medicines, concepts of health and disease being not only quashed, but denounced as being sinful. Paradoxically, the colonisers brought with them not only new ideas, but also new diseases, such as measles, smallpox, influenza, venereal disease and tuberculosis, which the old healers were singularly unable to treat.

An earlier example of communal interest in the care of the individual is provided by Herodotus following a visit to Babylon in around 450 BC. He describes how the people brought their sick into the market place, "Then, those who pass by the sick person confer with him about his disease, to discover whether they have ever been afflicted by the same disease, and advise him to have recourse to the same treatment as that by which they themselves, or others they have known, have been cured. And they are not allowed to pass by any sick person without enquiring the nature of his distemper".

The first known institutions to provide inpatient treatment for the sick were within the sanctuaries dedicated to Asclepios. Epidaurus was the principal centre, though the original home of the cult was in Tricca, in Thessaly. In the Asclepia certain rites were observed. After baths, fasting, and sacrifices, the patient was permitted to spend the night in the temple where he slept on a couch near the statue of the god. This was the period of incubation. During the night Asclepios would appear to the patient in a dream, and in the morning the priest would interpret the dream, and prescribe appropriate therapy. In such a setting was Wealth, or Plutus, cured of his traditional blindness in the comedy of that name by Aristophanes, first performed in 388 BC.

While many instances of successful treatment in the Asclepia were recorded, intending inmates were subject to careful selection by the attendants. Neither birth nor death was permitted to occur in the presence of the god. If a sick man was seen to be dying, he was removed from his couch, taken to the gate, and left to die on the hill side. Likewise, a woman going into labour whilst undergoing treatment for another illness, was mercilessly cast out. During the second century BC, these temples developed into resorts resembling the spas of more recent days. Patients stayed for longer periods taking baths, drinking the waters, and were disciplined by a strict regime of exercise and diet.

Turning to domiciliary medicine of that time, Plato commented on the different attitudes of doctors to the slave and the freeman. "Slave doctors do not talk to their patients individually, nor do they permit them to talk about their complaints. He prescribes what experience suggests, gives his orders, and is on his way with a show of urgency. But the doctor attending a freeman goes to the patient, rather than the patient to him. He carries his enquiries far back, and goes into the nature of the disorder; he talks to the patient, and to his friends, and will not prescribe for him until he has first convinced him. At last, when he has brought the patient more and more under his persuasive influence, he attempts to effect a cure".[6]

In the Roman Republic, the citizens, proud and self-sufficient, had no need of physicians, according to Pliny the elder. The head of the household looked after the physical well-being of his family and slaves. He consulted, and, where necessary, propitiated, the appropriate household gods, of which there were many, representing almost every bodily organ, function, and symptom of disease. In cases of a more serious nature the Sibylline books, acquired at great expense by Tarquin, and preserved in the Temple of Jupiter, were consulted. At least the citizens were spared the hazards of iatrogenic illness, but following the fall of Corinth in 146 BC, Greek physicians came to Rome in increasing numbers, though they were accorded a lowly status, and despised because of the high fees they charged. A greater variety of medical advice and treatment became available to the people with the appearance of experts in particular fields of medicine. Cicero deplored this development; "Do you really suppose", he wrote, "that in the time of the great Hippocrates of Cos there were some physicians who specialised in medicine, and others in surgery, and yet others in ophthalmic cases? Or that even literature with Aristophanes or Callimachus were such entirely separate subjects that nobody embraced culture as a whole".[7]

In the early days of the Empire, however, Rome contained many specialists, most numerous being the oculists, who largely devoted themselves to the preparation of salves for the eyes. As many of these applications contained copper or arsenic, it is not surprising that the cure was often worse than the disease.

The Greeks and Romans believed that the Fates ruled their lives. Clotho spun the thread, Lachesis was chance, that element of luck that every man could reasonably expect, while Atropos arbitrarily cut the thread, bringing life to an end. Additionally, Nemesis hovered ominously overhead, ready to strike down the evil doer, or one who appeared to enjoy excessive and unmerited prosperity. Under these circumstances, the average citizen kept his head down, bore illness with fortitude, and did not expect cure or preservation from death as a result of medical intervention alone.

While Christianity was, in part, a revolt against pagan materialism and superstition, its followers too could not accept a natural cause of disease, nor could they envisage a cure as being other than miraculous. Following the closure of the Asclepia by Constantine in 335 AD, many Christian hospitals were established throughout Europe, the earliest in Britain being probably at York in the tenth century. In these institutions, patients received care and comfort, and assistance to bear their misfortunes, rather than treatment of their underlying disease. Many inmates would not be described as sick to-day. A London citizen, Robert Copland, described those who could expect to be admitted to a hospital, probably St Bartholomew's:[8]

> They that be at such mischief
> That for their living can do no labour
> And have no friends to do them succour:
> As old people sick and impotent,
> Poor women in childbed here have easement.
> Weak men sore wounded by great violence
> And sore men eaten with pox and pestilence,
> And honest folk fallen in great poverty
> By mischance or other infirmity;
> Wayfaring men and maimed soldiers

Have their relief in this poor house of ours;
And all others which we deem good and plain
Have their lodging here for a night or twain:
Bed-rid folks, and such as cannot crave
In these places, most relief they have,
And if they hap within our place to die
Then they are buried well and honestly.
But not every unsick stubborn knave,
For then we should over many have.

There is little evidence that, during the middle ages, the monasteries contributed significantly to the care of the sick. The infirmaries attached to them were essentially to accommodate sick members of the order themselves. While many so-called hospitals were temporary refuges for travellers and pilgrims, most in the truer sense were lazar houses, where sufferers from leprosy were compulsorily isolated. To them a harsher charity was meted out. Lepers, or 'Christ's poor' as they were generally known, were looked upon by the Church as the living dead. They were torn from their families and friends, a form of the burial service was read over them, and the more fortunate were entombed in the lazarettos: others were banished to end their miserable lives begging for food and alms by the roadside.

In rural areas, where 90 per cent of the population lived in small village communities, most medical care continued to be on the self-help basis. It is improbable that the skills of professional leeches were available to those who could not pay for their services. The lady of the manor dabbled in household medicine, and Salzman considered that "she was skilled in compounding medicine from herbs which she administered to the household and her poorer neighbours, she being often the unofficial doctor of the village".[9] Other women, of more humble standing, also provided simple treatment for the poor. One of Chaucer's characters is confident of her homespun remedies—

"Let me urge
You free yourself from vapours with a purge
And that you may have no excuse to tarry
By saying this town has no apothecary,
I shall myself instruct you and prescribe
Herbs that will cure all vapours of that tribe
Herbs from our very own farmyard".

But for most people, personal illness was of small account compared with their suffering resulting from the recurrent and apocalyptic succession of war, famine, pestilence and early death. Continual wars were followed by the dismal sequence of pillage, destruction of crops and homes, leading in turn to famine and epidemic disease. To have lived in Europe in the 14th century would have been to experience the appalling synergism of the Hundred Years War, the terror of the Inquisition, and the advent in 1348 of the great mortality, or, as it came to be known, the Black Death. In his introduction to the Decameron, Boccacio left a vivid account of the plague, as it affected the city of Florence. He gives an accurate description of the clinical features, emphasising the ominous prognosis of the development of a petechial rash, and continues; "Either the disease was such that no treatment was possible, or the doctors were so ignorant that they did not know what caused it, and

therefore could not administer the proper remedy". Quacks and charlatans abounded, but multitudes of people were left without care, brother abandoned sister, and wife her husband. In spite of attempts to control movement of people into Florence, between March and July, 100,000 persons perished. It was in Venice, in that year, that a board of health was formed to isolate all travellers from the East on an island offshore; the period of such isolation to be forty days, arbitrarily chosen to correspond to the length of Christ's stay in the wilderness, from which the term quarantine is derived. The plague reached England in the Summer of 1348, spreading to Scotland, and later to Wales and Ireland. It was to remain endemic in Britain for the next three hundred years. Thomas Nashe echoes the fatalism of those days:

Rich man trust not in wealth;
Gold cannot buy you health;
Physic himself must fade;
All things to end are made;
The plague full swift goes by;
I am sick, I must die.

Small wonder that the best preventative against the plague were the three adverbial pills, "quick, far, and late"—go quick, go far, return late.

One may observe, as at first hand, something of life, death, and doctors in seventeenth century London through the writings of John Evelyn and Samuel Pepys, diarists, contemporaries, and friends.[10, 11] Pepys underwent a lithotomy for bladder stone at the age of 26, two years before he began his diary, and celebrated each anniversary of the operation in a day of solemn thanksgiving. Eleven years later, Evelyn writes; "I went this evening to convey Mr Pepys to my brother Richard, now exceedingly afflicted by the stone, to encourage his resolution to go through the operation". Pepys, ever an enthusiast, but often lacking insight, brought with him his own calculus, suitably mounted, and as big as a tennis ball. Unhappily the sight of this exhibit did nothing to strengthen Richard's resolve, and he died a year later in great misery, without having had surgery. Years previously, in Paris, Evelyn visited the hospital of La Charité where he saw the operation of cutting for stone. He records, in May 1650; "A child of eight years old underwent the operation with most extraordinary patience, and expressing great joy when he saw the stone was drawn. The use I made of it was to give Almighty God hearty thanks that I had not been subject to this deplorable infirmity".

Pepys had many medical friends, some of whom he used to encounter at meetings of the Royal Society. At one such meeting, early in 1666, which had adjourned to the Crown Tavern, he describes how, "Dr Goddard did fill us with talk in defence of his and his fellow physicians going out of London in the plague time". Pepys did not find his excuses convincing, but the discussion was a long one only terminating, as he tells us, "when poor Dr Merritt was drunk, and so all home". The exodus of physicians from London during the plague allowed the apothecaries to become firmly established. When the plague receded, patients found the apothecary in his shop to be easily available, able to provide a diagnosis, dispense his own prescription, dress wounds, and even bleed, without the help of a physician. This facility was to be legitimised by a ruling of the House of Lords in 1704 which allowed an apothecary to prescribe for a patient without the intervention of a

physician. He could not charge for such advice, but only for the medicine, hence the habitual expectation of a bottle of physic which has been ingrained in patients ever since.

When Pepys was 35, he began to have trouble with his eyesight, and he records, "And then to Westminster to Dr Turberville about my eyes, whom I met with, and he did discourse, I thought, learnedly, about them, and takes time, before he did prescribe me anything, to think of it". Obviously a model consultation, but Pepys' confidence was to be somewhat lessened a fortnight later when he met up with some medical friends, including his eye specialist, at an ale-house in the Strand, to watch a Dr Lowrie dissect some sheeps eyes. He thought it strange that, "This Turberville should be so great a man, and yet to this day had seen no eyes dissected".

Evelyn himself lived to be 86, but of six sons and three daughters, only one daughter survived him, an appalling mortality in a well-to-do family. On the 27th January 1658 he writes; "After six fits of quartan ague died my dear son Richard, to our inexpressible grief and affliction, five years and three days old only, but at that tender age a prodigy of wit and understanding". No mention is made of calling a doctor, but he voices some criticism of the domestic nursing care. "In my opinion, he was suffocated by the women and maids that tended him, and covered him too hot with blankets as he lay in a cradle, near an excessive hot fire". Three weeks later his youngest son also died. "Seven weeks languishing at nurse, ending in a dropsy". Two of Evelyn's daughters died of smallpox, and he himself contracted the disease while travelling in Switzerland. In Geneva, he sent for a physician and he writes; "The doctor persuaded me to be let blood. He afterwards acknowledged that he should not have bled me had he suspected the smallpox, which broke out a day later. He then purged me and applied leeches, and God knows what this would have produced if the spots had not appeared, for he was thinking of blooding me again". With the decline of bubonic plague, smallpox continued to be the most feared of diseases for the next two hundred years. While the incidence was high, many patients recovered, bearing their pock marks as reminders of man's mortality.

But British troops, returning home after the battle of Ramilles in 1706, brought back with them another evil contagion, a taste for gin. The next fifty years were notable for frenzied and widespread consumption of cheap spirits distilled from surplus corn, rotten fruit, and even sawdust. In London, for the years 1740-1742, the ratio of burials to baptisms rose to be two to one. A Middlesex magistrate wrote, "In the early part of my life (I remember almost the time that Hogarth has pictured) when every house in St Giles, whatever else they sold, sold gin, every chandler's shop sold gin, the situation of the people was terrible". The College of Physicians petitioned Parliament against spirituous liquors as rendering the poor not fit for business, a burden to themselves and neighbours, and too often a cause of weak, feeble and distempered children. John Fielding, in 1776, declared that; "These shopkeepers have conveyed more to the regions of death than the sword or the plague.[12]

In the midst of this orgy of self-destruction, and, perhaps, because of it, more philanthropic ideals prevailed, which were to lead to improved medical care for the poor, especially in the cities. Hospitals were founded by private individuals, and maintained by voluntary subscription, in London and the provinces, though the period of their establishment was coincident with the highest death rate of the

century. This was scarcely surprising, as most were ill-ventilated, and ravaged by fever; a Dr Percival commented in 1771; "It is a melancholy consideration that these charitable institutions, which are intended for the health and preservation of mankind, may too often be ranked amongst the causes of sickness and mortality".

Of greater importance to the health and well-being of the citizens were the dispensaries, the first of which was established in 1769, due, in part at least, to the instigation of John Wesley. The dispensary was to provide a place at which the poor might attend for advice and free medicine, while those who could not attend were visited at home. In these centres, the patients were instructed in the fundamentals of hygiene, and the doctors learned something of the diseases associated with poverty and squalor. Following Jenner's work in 1798, many dispensaries undertook free vaccination, and in the early 19th century were responsible for measures to control typhus, and to isolate cases of infectious disease.

The cholera epidemics of the mid-19th century led to demands for reform in housing and sanitation. The wealthy townsman was not immune from infection, for his water supply was no safer than that in the slums, and typhoid was to cause the death of the Prince Consort in 1861. The threat of cholera led to the passing of Chadwick's Public Health Act in 1848, which was both ineffective and unpopular. To the Victorian mind, charity was a commodity which it was more blessed to give than to receive, and certainly not something to be officially imposed. In May 1848, the 'Economist' newspaper, opposing Chadwick's Act, declared unctuously "Suffering and evil are nature's admonitions; they cannot be got rid of; and the impatient attempts of benevolence to banish them from the world by legislation, before benevolence has learnt their object and their end, have always been more productive of evil than good".[13] Later, following Chadwick's dismissal, the "Times" was to add; "we prefer to take our chance of cholera and the rest, than to be bullied into health".

In the latter part of the 19th century, in the larger towns and cities, many patients sought the services of the casualty officer attached to the local voluntary hospital. Robert Bridges, as casualty physician at Barts in 1878, reported that 150,000 patients had passed through his department in the preceding year. Significantly, perhaps, Bridges himself was to give up medicine altogether four years later for the gentler muse of poetry, and was eventually to be appointed Poet Laureate. He records that the doors were opened for one hour only at nine am, being held ajar by two porters in livery, who allowed the patients to squeeze in one by one. Each had to answer a crucial question which determined him, rightly or wrongly, to be a medical or surgical patient. By 10 o'clock five hundred patients were ranged on forms, the women engaged in conversation, the men waiting in silence. Medicine was dispensed from two large jugs, one containing a cod liver oil preparation, and the other Queen Anne's mixture of quassia and iron, which was specific for the many sufferers from atonic dyspepsia. He found the examination of women patients to be tedious and time-consuming: "With the lowest estimate of female garrulity", he writes, "we must recognise the feat accomplished in giving separate audience to the troubles of 150 women in three hours and a quarter; even though their complaints were generally less worthy of attention than those of men, and though I learnt to make them stand with their tongues out much longer than was necessary for medical diagnosis".[14] Local doctors were incensed by these attendance figures, and the lost

income to them which they represented. Yet a century later, in 1981, 60,000 patients passed through the Accident and Emergency Department of the Royal, with the full acquiescence of their general practitioners.

In rural areas, the doctor was the virtual prisoner of his patients, who were banded together in sickness clubs and friendly societies.[15] A commissioner from the 'Lancet', investigating the situation, reported, "To satisfy these patients, it is necessary to give them a lot of medicine; it must be a dark medicine, with a strong taste, preferably of peppermint. Something warming is required, so that when any friends call at the patient's house, he can offer them a glass". Following the passing of the Medical Act of 1858, the status of the general practitioner improved. He was idealised in Anthony Trollope's Dr. Thorne, of whom it was said that he added the business of a dispensing apothecary to that of a physician, as was then the wont of many country practitioners, and as should be the wont with them all, if they consulted their own dignity a little less, and the comforts of their customers somewhat more. Conversely, Trollope was scathing in his view of the physician of his day. Vain, inclined to name-dropping, and jealous of his aristocratic clientèle. While he charged no fee for his services; "The physician", he wrote, "should hardly be aware that the last friendly grasp of the hand had been made more precious by the touch of gold".

In 1689, Hugh Chamberlen, a Huguenot, put forward his proposal for the 'Better Securing of Health', "a complete constitution of physick whereby all sick, poor or rich, shall be advised and visited by skilful physicians and surgeons for all diseases except pox, midwifery, and cutting for stone, for a small yearly certain sum assessed on each house, not the third of what is now spent on Apothecaries bills in a healthy year". His scheme was not taken up, and the patient has had to wait for a further 260 years before a comprehensive service became available to him. Now, Christ's poor of yesterday have become the consumers of health care of to-day, though with very limited consumers rights. Claiming to represent the patient in this role is the Patients' Association, whose chairman, Dame Elizabeth Ackroyd, kindly accorded me a brief interview. It should be said that this Association, whose offices are situated in the Fabian Society Building in London, inclines, spectroscopically, more toward the infra red than the ultra violet. This is reflected in the adoption of a fairly militant attitude toward such matters as the complaints procedure, which is seen to be inadequate and biased in the doctor's favour, and hostility to private practice in NHS hospitals because of its divisive effects as between medical and other staff. Concerning information, it was the Association's view that this would be improved if the patient were to be allowed access to his own records, a view with which most doctors disagree. Regarding the general image of the doctor, Dame Elizabeth felt that because patients increasingly see themselves as consumers, they are less ready to take their doctor on trust: but if they have a good doctor, who listens to them, then they have as much confidence in him as they ever did. They are often worried about the ethical and practical problems of changing from one doctor to another, and afraid to ask for a second opinion, an option which is seldom offered to them. On the broader question of group practices, these are wholly acceptable to most patients, though older people would still prefer to see the same doctor on each visit. Surprisingly, perhaps, very few complaints were made about deputising services. People were glad to get a doctor to come to their house at all, since, in large cities,

most doctors did not live anywhere near their practices, and were thus completely inaccessible to their patients at night and at weekends. In general, it appeared that most patients who went into hospital were very satisfied with their treatment. Their main niggles were waiting lists, and waiting times, noise, and nurses, a minority of whom were inclined to push them around, and some patients complained about being used for teaching and research. But it is not as consumers that most patients see themselves, which is fortunate, for they will always consume more than we can provide, on the Parkinsonian principle that needs expand to match the help available.

Rudyard Kipling, addressing the students of the Middlesex Hospital in 1908, likened the patient's attitude to his doctor to that of the non-combatant toward the troops fighting for him. "We patients", he said, "console ourselves with the idea that it will be your business to make the best terms you can with death, on our behalf, to see how best his attacks can be longest delayed or diverted, and when he insists on driving his attacks home to us, that it shall be according to the rules of civilised warfare".[16] But he also reminded his audience that the esteem in which the doctor is held, and the privileges he enjoys, relate to the patient's belief that his doctor will be available to him, however inconvenient the time or the place. But, in personal terms, what the patient requires of his doctor is clear: from Plato, Pepys, Pickering, and even the Patients' Association, the message is the same. He wants to discuss his illness, he wants the doctor to listen to him, and then to be decisive in his advice and treatment. He also has certain prejudices.

"I don't want a father figure as my doctor, just a good plumber", was the trite comment of a young social worker at a meeting in Dublin some years ago.[17] She may be assured that the plumbers are getting better all the time, but the father figure is inescapable.

"The whole earth is our hospital", wrote T.S. Eliot

.....

"Wherein, if we do well, we shall
Die of that absolute paternal care
That will not leave us, but prevents us everywhere".

While the patient may reject the para-clinical caress of his practitioner, the outstretched arms of the Welfare State enfold him in a far more deadly embrace.

To-day's citizen still dislikes being bullied into health. Katherine Whitehorn, a regular columnist in the "Observer", accepts the propriety of measures, such as vaccination, as protection against specific physical ailments. She is critical, however, of the general urge toward prevention of illness involving changes in the life style of the individual. "I never elected anyone", she writes "to the right to make me healthy myself; or the moral right to make me feel my unhealthy habits are a sin against the religion of medicine".

The relationship between religion and medicine is, at best, a fragile symbiosis. While he may be sustained by his own beliefs and faith, the patient is unsettled by an excess of piety in his doctor. Admittedly, he seldom experiences it, and even Chaucer's physician, a pilgrim to Canterbury, was ill-versed in Holy Writ. George Eliot considered that the respect felt for the doctor with but little religion reflected the age-old association of cleverness with the evil principle, still potent in the minds,

even of lady patients. "It is certain", she continues, "that if any medical man had come to Middlemarch with the reputation of having very definite religious views, of being given to prayer, and of otherwise shewing an active piety, there would have been a general presumption against his medical skill",

Having fairly constant likes and dislikes, though with changing expectations, the sick person needing care is a fundamental concern of society, whether primitive or complex. "Virtue is the roughest way" wrote Sir Henry Wotton, and it is exemplified by the patient who has endured much, with cheerfulness and courage, qualities which may be observed daily in our hospital wards. Through the ages, the doctor has been lampooned for his avarice, vanity, and incompetence, by none more so than Moliere, in his seventeenth century comedies. Yet, while aware of our frailties, the patient has continued to shew a remarkable fidelity toward those who have set themselves up as his healers.

Medicine embraces the trivial and the serious, and is illuminated by both comedy and tragedy. In your career you will experience disappointment, but also enormous satisfaction, and to survive its undoubted tribulations you require both a sense of purpose, and a sense of humour.

For me, the virtue of those for whom it is our privilege to care, is crystallised in the words of Helen Keller. "Although the world is full of suffering, it is full also of the overcoming of it".

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AMYLOID DISEASE
AN AUTOPSY REVIEW OF THE DECADES 1937-46 AND 1961-70

by

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AMYLOID is an amorphous homogenous extracellular material which is laid down in connective tissue. It is of interest and of clinical importance because accumulations of amyloid in various organs results in pressure atrophy of the adjacent "host cells" and thus a disruption of the function of the organ.

Amloid material can be recognised in tissue sections stained with the usual stains, but when scanty is better demonstrated by methyl violet or Congo red. It also gives an apple green fluorescence with polarised light after staining with Congo red.

Since it was first described by Virchow in 1852 many studies have been made and these are well discussed in recent reviews.[1, 2] Wilks in 1858 recognised the association of amyloid disease with chronic infections, especially chronic tuberculous infections, and with rheumatism. An association with multiple myeloma was noted by Adams and Dowse in 1872. Soyka in 1876 recognised that it could occur with no identifiable cause. Lubarsch in 1929 described such cases and those associated with multiple myeloma as primary amyloid disease. This form most commonly appears in the heart, the blood vessels, and the smooth muscle of the intestinal tract. Senile amyloid found in the heart of patients over 80 years of age is usually included as primary and is so classified in this study. Secondary amyloid is that associated with chronic infections, such as tuberculosis, osteomyelitis, syphilis and bronchiectasis, or with chronic inflammatory diseases such as rheumatoid arthritis and systemic lupus erythematosus. This group also includes amyloid associated with renal cell carcinoma and sarcoid, and the heredofamilial forms. Secondary amyloid most commonly affects the adrenals, kidneys, liver and spleen. Endocrine amyloidosis is that associated with the endocrine tumours such as medullary carcinoma of the thyroid. It is interesting in that it is thought to be related to altered synthesis of the hormone secreted by the tumour.

Differences in the fibril subunit protein may be demonstrated by X-ray diffraction studies and may be related to the primary, secondary, endocrine and senile forms of the clinico-pathological classification, but this has not been possible in this retrospective study.

MATERIAL AND METHODS

All the cases of amyloid disease indexed in the autopsy records of the Pathology Department, Royal Victoria Hospital, during the years 1937-46 and 1961-70 were studied. There were 3,414 autopsies indexed in the first decade and 11,586 in the second decade. The age and sex distribution, organ involvement and associated diseases were noted and the results tabulated.

RESULTS

Of the 3,414 autopsies carried out between 1937 and 1946, 15 were found to have amyloid disease. In the years 1961-70, 11,586 autopsies were carried out and 81 were noted to have amyloid disease. Thus it can be seen that in the earlier decade 0.44 per cent of all autopsies had amyloid disease whereas in the later decade 0.7 per cent of all autopsies were affected.

Age and Sex

There has been little change in the sex distribution of amyloid disease, the ratio of male to female remaining at approximately two to one. (Table I). A marked shift has occurred in the age distribution of the disease (Table I). In the 1937-46 period 60 per cent of cases were less than 50 years of age. In comparison, only 10 per cent of cases between 1961 and 1970 were less than 50 years old.

Organ and Tissue Involvement

Organ involvement has altered (Table II). In the earlier decade the adrenal glands, kidneys, liver and spleen were the organs most commonly affected. In the later decade the heart was added to the above list of organs commonly involved.

Associated Diseases

From Table III, it can be seen that the type of amyloid disease present has altered. There has been an increase in the incidence of primary amyloid from 40 per cent to 53 per cent and a fall in that of secondary amyloid from 60 per cent to 47 per cent. The aetiology of secondary amyloid has changed. In the decade 1937-46, 67 per cent of all cases of secondary amyloidosis were associated with tuberculosis and 22 per cent were associated with bronchiectasis. However, in 1961-70, tuberculosis was associated with only 24 per cent of cases of secondary amyloid and bronchiectasis with 37 per cent. Rheumatoid arthritis, which was not associated with any cases of secondary amyloid disease in the years 1937-46, was the cause of 29 per cent of cases between 1961 and 1970.

Age Distribution of Primary and Secondary Amyloidosis

As can be seen from Table IV the largest single group in the earlier decade is secondary amyloidosis in those aged 50 years and under. In the later decade the largest group is primary amyloidosis in those over 50 years of age.

Discussion

The results of this review show that there has been a clearly detectable increase in the incidence of amyloid disease found at post-mortem examination. With this change there has occurred a dramatic shift in the age groups within which cases occurred. The third important fact which emerged was that secondary amyloidosis has been largely replaced by primary amyloidosis. It is interesting to speculate on the reasons for these changes in the pattern of amyloid disease.

The alteration in the age destribution of the disease can to some extent be explained by the change in the age structure of the population. In 1937, 6.8 per cent of the population of Belfast were aged 65 years and over, and by 1961 this figure had risen to 10.1 per cent. By the end of the second survey period 12.8 per cent were over

TABLE I

Distribution of Amyloidosis by Age and Sex

	1937-46			1961-70		
Age	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
0—29	3	2	5	2	1	3
30—49	2	2	4	4	1	5
50—69	4	1	5	22	11	33
70—89	1	0	1	22	14	36
90+	0	0	0	3	1	4
Total	10	5	15	53	28	81

TABLE II

Organ and Tissue Involvement in Amyloidosis

	1937-46	*1961-70*		*1937-46*	*1961-70*
Adrenal	10	43	Lung	0	4
Bladder	0	2	Pancreas	1	2
Blood vessels	1	10	Parathyroid	0	3
Gastrointestinal tract	1	6	Pituitary	0	3
Heart	1	31	Spleen	12	32
Kidney	13	50	Thyroid	0	9
Liver	9	27	Skeletal muscle	0	1
			Testis	1	0

TABLE III

Associated Disease

		1937-46	*1961-70*
Primary			
	No associated disease	5	40
	Multiple myeloma	1	3
Secondary			
	Bronchiectasis	2	14
	Osteomyelitis	1	0
	Tuberculosis	7	9
	Sarcoidosis	0	1
	Syphilis	0	1
	Rheumatoid arthritis	0	11
	Systemic lupus erythematosus	0	1
	Renal cell carcinoma	0	2

Note: One patient had 2 possible causes of secondary amyloidosis and both have been included in the above table.

TABLE IV

Age Distribution of Primary and Secondary Amyloidosis

	1937-46			1961-70		
Age	Primary	Secondary	Total	Primary	Secondary	Total
0—29	1	4	5	0	3	3
30—49	2	2	4	1	4	5
50—69	2	3	5	14	19	33
70—89	1	0	1	24	12	36
90+	0	0	0	4	0	4
Total	6	9	15	43	38	81

65 years of age. Better social conditions and more effective medical treatment of many diseases have been responsible for much of the rise in the numbers of very old people.

The marked fall in the incidence of amyloid disease secondary to tuberculosis is as expected, since the incidence of tuberculosis itself has been reduced by improved social conditions, BCG vaccination and the introduction of anti-tuberculous drugs. This change is most noticeable in the deaths occurring in the younger age groups. One might reasonably have predicted also a fall in the incidence of cases of amyloidosis secondary to bronchiectasis. However, the figures in fact show a significant increase. Could it be that, on account of better therapy, more patients with bronchiectasis survive long enough to develope amyloid disease?

It is interesting to surmise why rheumatoid arthritis, while implicated in 29 per cent of cases of secondary amyloidosis between 1961 and 1970, was not associated with any cases in the earlier decade. Were there less cases of rheumatoid arthritis in the population or did fewer come to autopsy? The patients may have died earlier in the course of their disease before developing secondary amyloid disease.

Perhaps the most significant finding was that in the first decade there were no cases of amyloidosis in those aged 80 years and over, whereas in the second decade 28 per cent of all cases were in those over 80 years of age. The majority (91 per cent) of cases in this latter group were of primary type and were almost entirely due to the appearance of senile cardiac amyloidosis. It could be suggested that the high incidence of this condition is due to the marked rise in the number of elderly people in the population.

SUMMARY

This review has shown that there has been an increase in the incidence of amyloid disease found at autopsy. Secondary amyloidosis associated with tuberculosis in the younger age groups has been largely replaced by senile cardiac amyloidosis.

ACKNOWLEDGEMENTS

I would like to thank Dr. Claire M. Hill and Professor E. F. McKeown for their help and encouragement. I am grateful to Professor J. E. Morison for his most helpful advice in the preparation of this paper.

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EXPERIENCE WITH THE SHEEHAN KNEE REPLACEMENT

by

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UNTIL recent years, patients with osteoarthritis and rheumatoid arthritis had little hope of effective treatment for their painful knees, whereas operations had been developed which could relieve pain in the hip. Arthroplasty of the hip is a standard operation with predictable results. Patients have unfortunately, though not surprisingly, come to expect a similar solution for their arthritic knees—and will be unwilling even to consider an arthrodesis. Although still in the stage of development considerable progress has been made, improving designs reflecting increasing understanding of the functional characteristics of the knee.

Knee arthroplasty, using metal on plastic joints, was commenced on a trial basis at the Withers Orthopaedic Centre in 1974. The results of the first four years, using the Marmor and Geomedic knee replacements, were earlier reported by Lowry, McLeod and Mollan.[1] From late 1977, and especially in the more severely affected knees, the Sheehan prosthesis was used. This paper reports the results after adequate follow-up and discusses their implications.

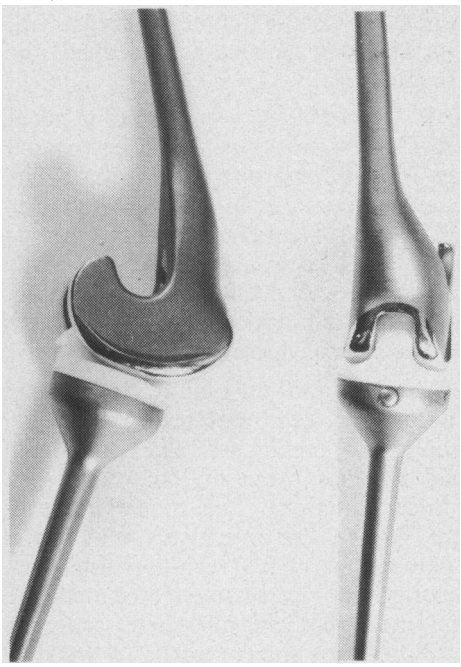

FIG. 1
The Sheehan Total Knee Replacement.

MATERIAL AND METHODS

The Sheehan prosthesis was used in patients who would previously have been considered suitable for the Geomedic knee replacement, i.e. where both compartments were affected. The bearing materials are chrome-cobalt alloy and high-density polythene (Fig. 1). The high-density polythene, which forms the upper part of the tibial component, is housed in a metal container with an intra-medullary stem. The range of movement of the prosthesis simulates normal knee movement; 5-130° flexion, stability in the extended position without rotation, but with the latter gradually increasing to 20° when the knee is flexed to 60°.[2, 3]

Between December 1977 and October 1980 forty-two Sheehan knee replacements were performed on 38 patients. Two patients had bilateral replacement, two had

revision with a further Sheehan prosthesis (another revision was performed using a different type of prosthesis). There were 30 females and eight males in the survey. The mean age was 64.8 years (range 42-79). Twenty-one had rheumatoid arthritis, 16 had osteoarthritis while one had psoriatic arthropathy. Some 15 per cent of patients in the survey were on systemic steroids. The affected knees had been symptomatic for more than ten years in 68 per cent of patients. Twelve of the patients had had previous surgery to the affected knee.

RESULTS

The patients were assessed both pre- and post-operatively using a modified British Orthopaedic Association Knee Function Assessment Chart.[4] This chart records pre-operative details of the patient in respect of diagnosis, duration of disease, age, whether or not there was previous surgery to the knee and, the state of the other joints. It also records with regard to the knee being replaced pre- and post-operative pain, ability to walk, use of walking aid and nature of gait, flexion deformity, maximum flexion, valgus or varus angle, and the ability to get out of a chair and to climb stairs. Finally, the post-operative assessment of the treatment by the patient is recorded.

All but two of the patients were available for follow-up, the mean period of which was 41 months (range 9-57). In 26 arthroplasties the end result was described by the patients as "good" or "excellent," although two of these operations were revisions (one for infection, one for loosening). In four cases the results were described as fair; in two of these the pain, although less severe, continued to be a major problem while, in the remaining two cases, concurrent medical disease limited rehabilitation. There were three poor results where, although pain was reduced or abolished, the pre-operative range of movement was never regained.

Six cases must be considered outright failures. Two of these were due to medical complications (one cerebro-vascular accident, one peritonitis from perforated diverticular disease). Three prosthesis became infected and one loosened. All but one of these were salvaged by successful exchange. However, in the one remaining case, attempts at arthrodesis were unsuccessful and eventually amputation was performed. Two patients required re-exploration of the knee and removal of fibrous tissue, although this did not prejudice the final good result. Delay in wound healing was a feature of seven cases. One patient required manipulation under anaesthetic four weeks after initial operation. There was one case of deep venous thrombosis.

The pre- and post-operative flexion deformities and maximum flexion are illustrated in Figures 2 and 3 respectively. Pre-operative flexion deformity of 20° or greater in 36 per cent of cases is reduced in the post-operative assessment to 14 per cent. Almost one-half of the patients regained a flexion range of 100°, denoted a marked improvement in this aspect of knee function. The most dramatic improvement is seen in that of pain assessment (Fig. 4). Pre-operatively, all but one of the patients had either moderate or severe pain such as caused serious disturbance of life style or interference with sleep. In the post-operative assessment 80 per cent of patients had either mild pain, or none at all. Some 61 per cent of patients reported themselves enthusiastic with the operation. Significant improvement in walking distance after surgery was difficult to assess due to the large number of patients who had other weight-bearing joints involved.

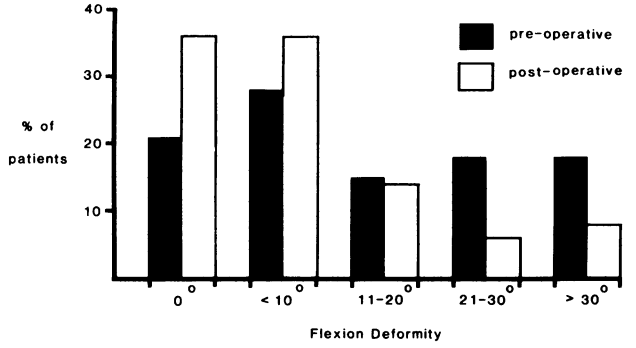

FIG. 2
Flexion Deformity—
Pre- and Post-operative.

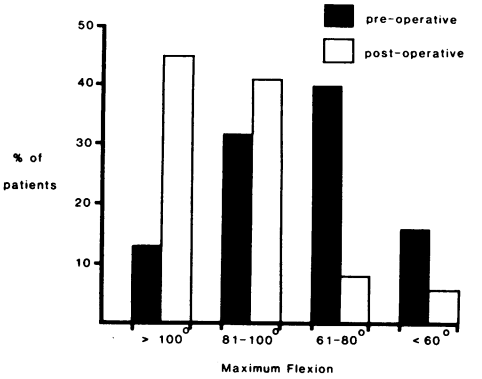

FIG. 3
Maximum Flexion—
Pre- and Post-operative.

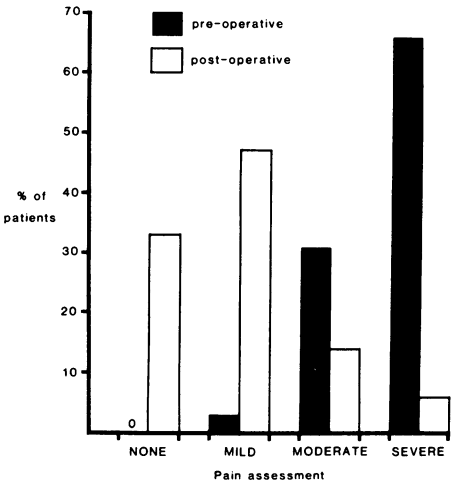

FIG. 4
Pain Assessment—
Pre- and Post-operative.

DISCUSSION AND CONCLUSIONS

The semi-linked Sheehan knee replacement has the advantage of a hinge, while, at the same time, allowing for rotation and a degree of subluxation. Its inherent weakness, however, is the large amount of bone which requires to be removed, making a salvage procedure much more difficult.[5] The best results using this prosthesis are obtained in very unstable knees, where the linkage provides additional stability (Fig. 5).

In this relatively small series the age groups and sex distribution compared closely with that of others.[6, 7] However, the incidence of those with osteoarthritis undergoing arthroplasty in our group (45 per cent) was higher than that found by other workers.[2, 3, 7] The period of follow-up was of sufficient length to assess adequately the efficacy of the prothesis.

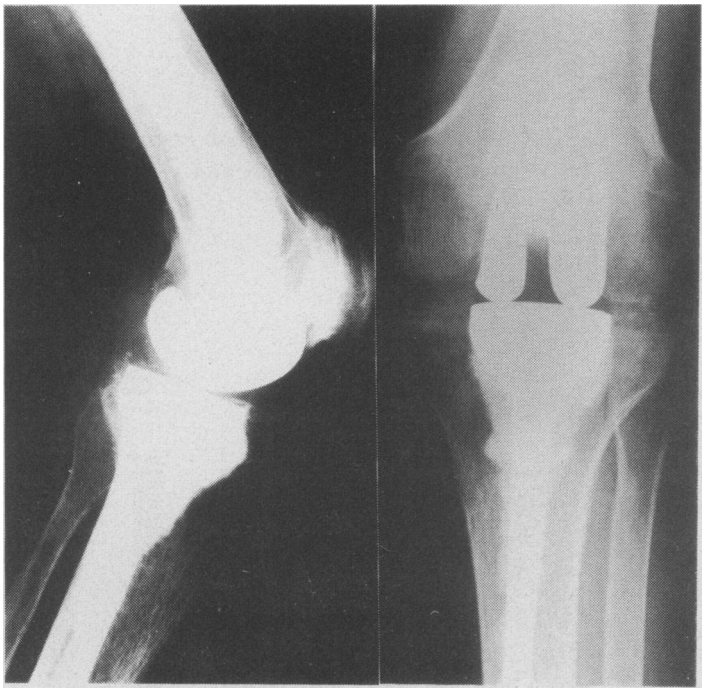

FIG. 5
The Sheehan Prosthesis in Situ in an Unstable Osteoarthritic Knee.

The patient's expectation of successful knee replacement is increased by the generally excellent results of hip arthroplasty. Failure of operation in six patients (16 per cent) is very high when compared with other similar surveys.[3, 6, 7] Indeed, amputation is a very high price to pay for an elective procedure in a benign condition. The high number of failures or poor results (23 per cent of the total), and the arrival of the technically superior Richard's (R.M.C.) prosthesis has resulted in the virtual cessation of this operation in Belfast. It is concluded that, although results would undoubtedly improve with experience, the Sheehan arthroplasty should be reserved only for the extremely unstable knee.

SUMMARY

Forty-two Sheehan semi-linked knee prostheses were inserted in thirty-eight patients between December 1977 and October 1980. Thirty-six of these patients were reviewed after an average follow-up of 41 months. Good or excellent results were obtained in 26 knees, fair reults in four knees and poor results in three. There were six failures; two due to unrelated medical complications, three due to infection of the prosthesis and one due to loosening. Three of these failures were salvaged by revision but one patient required amputation. In view of the high percentage of poor results and outright failures and the recent availability of the technically superior Richard's (R.M.C.) total knee replacement, the Sheehan prosthesis is now for only the most grossly unstable knees.

ACKNOWLEDGEMENTS

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We would also like to thank Mr. T. J. Walsh and his staff in the Medical Illustration Department of the Belfast City Hospital for their help with the photography.

Correspondence to: Mr. J. R. Nixon, MCh Orth, FRCS, Withers Orthopaedic Centre, Musgrave Park Hospital, Belfast BT9 7JB.

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BOOK REVIEW

FOCUS ON VISION. By RA Weale. (Pp 196, Illustrated. £5.75). London: Hodder and Stoughton, 1982.

FOCUS ON VISION is part of the Biological Science Texts which caters for a wide range of biological interests. This particular text is of modest size but contains a wealth of topical information on the eye, the visual pathways and vision. The first of four chapters, enigmatically entitled "The Window of the Soul." deals with the structure and function of the visual apparatus and has short sections describing the optical and electrical properties of the eye. The cellular organisation of the retina and visual pathways receives particular emphasis, and this section nicely encapsulates much of our current knowledge in this rapidly expanding field of neurophysiology. The second chapter examines the effect of light on various bodily functions and hormone control and discusses its influence on established circadian rhythms within the eye and elsewhere. Chapter Three gives an account of the embryology of the eye and visual pathways and describes the development of the visual processes in early life. The response of the eye to prolonged light exposure and the influence of age on the various components of the visual apparatus are also reviewed. A final chapter deals with perception and includes sections on colour vision, depth perception, stereoscopic vision and illusions.

The book is exceptionally well written with the subject matter well organised and liberally illustrated with figures, tables and diagrams. Each chapter has key references and is followed by a series of searching questions which enables the reader to assess his comprehension of the foregoing information. The book is modestly priced and will have particular appeal to ophthalmologists, especially those in training. Students of biology and psychology will also find this an interesting and informative text.

DBA

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RECONSTRUCTIVE VASCULAR SURGERY FOR INTESTINAL ANGINA

by

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THE disastrous consequences of infarction of the bowel are well documented. In an accumulated series of 274 patients from seven major centres up to 1975 the mortality averaged 95 per cent.[1] Baccelli[2] in 1918 first described the syndrome of chronic intestinal ischaemia manifested by post-prandial pain. It was not until 1933 that Connor[3] and Dunphy[4] linked intestinal angina to chronic visceral artery occlusion and eventual bowel infarction. In 1957, Mickelson[5] suggested a possible surgical approach in the management of atherosclerotic occlusion of the visceral arteries, and in the following year this proved to be successful.[6] Intestinal angina, as a syndrome, was slow to be recognised and by 1972 only 92 cases had been reported.[7] Since then, increasing numbers of cases have been reported, the largest series from the Mayo Clinic incorporating 56 patients treated over a period of 20 years.[8]

We present two cases of intestinal angina and discuss their diagnosis and management.

CASE REPORTS

Case 1 (N.H.). This 55-year-old woman gave a 6-month history of regular postprandial crampy central abdominal pain which commenced 10-15 minutes after meals and lasted 2-4 hours. The pain sometimes progressed into her lower abdomen. If the meal contained a high proportion of fat, diarrhoea followed approximately 30 minutes later. She normally tended to be constipated. Latterly she would spend prolonged periods sitting up and bent over a hot-water bottle which she clutched to her abdomen. She consumed small meals and was afraid to eat. She complained of continuing weight loss approaching 20 kg. She suffered from angina. At the age of 30 she had a hysterectomy and bilateral mastectomies for unknown reasons and there had been no evidence of tumour.

Several studies were done elsewhere to exclude primary gastrointestinal disease but as all investigations, except a liver biopsy which showed some fatty change, proved unhelpful, an exploratory laparotomy was undertaken which was also negative. At this point a vascular surgical opinion was sought.

On examination the patient appeared to have lost weight, was slightly dehydrated, mildly anaemic but haemodynamically stable. Abdominal examination revealed a healed incision but no other abnormal findings and a bruit was not heard.

A diagnosis of chronic progressive mesenteric vascular ischaemia was made and angiographic studies were undertaken (Fig. 1). Lateral views of a transfemoral aortogram showed significant stenotic disease of the coeliac axis and the superior mesenteric artery. The origin of the coeliac axis was almost occluded and the proximal superior mesenteric artery was stenosed. The inferior mesenteric artery was the only patent vessel supplying the gastrointestinal tract. Selective mesenteric angiography was then attempted and in the opinion of the radiologist some element

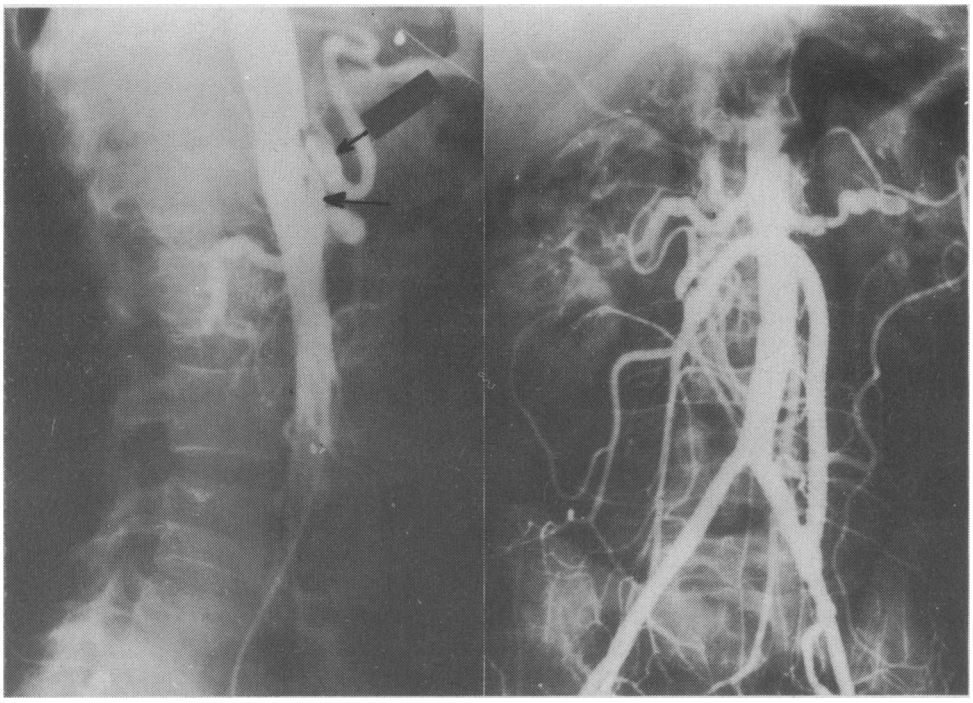

FIG. 1

(Case 1). Lateral aortogram (left) showing high grade stenosis of the coeliac axis and stenosis of the superior mesenteric artery. Postoperative angiogram (right) showing excellent perfusion of superior mesenteric artery via graft arising from left common iliac artery.

of dissection may have occurred due to the grossly arteriosclerotic proximal segment of this artery. Immediately following angiography she was observed to be pale, sweating and hypotensive. The abdomen was soft but there was generalized tenderness, especially in the left upper quadrant with some guarding. Bowel sounds were present but diminished and once again a bruit was not heard.

In view of her history, the confirmed findings of mesenteric artery occlusive disease and the likelihood of further ischaemia complicating angiography, immediately laparotomy was undertaken. A long midline incision was employed and on exposure the whole of the small bowel was pale and rather aperistaltic; pulsation was neither seen nor felt in the mesenteric vessels. The bowel was viable but its arterial blood supply was markedly attenuated. The posterior peritoneum was incised and the duodenum freed by dividing the ligament of Treitz. The proximal part of the superior mesenteric artery was exposed and the presence of blood in the arterial wall confirmed that dissection had occurred, and the distal vessel was pulseless. A 2.5 cm segment of patent vessel distal to this point was exposed and brought under control. Through a small peritoneal incision the left common iliac artery was them exposed, freed and encircled.

A 5 mm USCI Sauvage filamentous vascular prosthesis was preclotted by the method described by Yates et al[9] and anastomosed obliquely end-to-side to the left common iliac artery using 5/0 Ticron sutures. The graft was brought upwards retroperitoneally to the left of the aorta and then arching across it below the renal arteries in a natural curve downwards in the line of the superior mesenteric artery. Using a 1.5 cm arteriotomy in the superior mesenteric artery a careful oblique end-to-side anastomosis was performed under magnification employing 6/0 Ticron interrupted sutures. On release of vascular clamps, excellent flow was confirmed by pulsation of the superior mesenteric artery and its branches, immediate pinking up of the bowel and a frenzy of peristaltic activity. Using an electromagnetic probe a resting mean flow of 520 cc per minute was recorded (i.e. calculated velocity of approximately 50 cc per second per cm^2 graft cross-sectional area). A portion of omentum was brought down and tacked over the prosthesis so safeguarding the duodenum.

Postoperatively the patient's recovery was uneventful and she was discharged 11 days later on an antiplatelet regimen of dipyridamole and acetyl salicylic acid. Prior to discharge a confirmatory angiogram illustrated perfect alignment of the graft leading to a now patent superior mesenteric arterial system, the ramifications of which are clearly defined in Fig. 1. She reported complete remission of all her symptoms and after six months had fully regained her weight.

Case 2 (M.T.). A 54-year-old woman gave a 4-month history of postprandial crampy central and upper abdominal pain, especially after ingesting milk or cream. The pain usually commenced one hour after meals and lasted two or three hours, but was unrelated to the size of the meal and was not associated with any bowel disturbance. She admitted to a weight loss of 15 kg. In addition to these symptoms she occasionally complained of back pain and crampy pain in her legs unrelated to exercise. She smoked 20 cigarettes per day and admitted to a family history of cardiac and peripheral vascular disease. Barium meal and cholecystogram were both normal.

By the time of her admission to hospital three months later the patient had essentially stopped eating because even small meals precipitated severe abdominal pain of a degree which rendered her prostrate. On examination a small abdominal aortic aneurysm was palpable, an abdominal bruit was heard and weak femoral pulses were palpated.

A provisional diagnosis of intestinal angina was made and aortography displayed aneurysmal dilatation of the infra-renal abdominal aorta and also revealed the presence of stenosis at the origins of the common iliac vessels (Fig. 2a). A lateral aortogram (Fig. 2b) revealed the presence of stenosis at the origins of both the coeliac axis and the superior mesenteric artery. The origin of the inferior mesenteric artery was occluded but from its distal part a meandering visceral artery or arch of Riolan was noted, particularly in late-phase films (Fig. 2c).

The intensity of her symptoms increased until she was unable to tolerate food, necessitating parenteral nutrition. Because of her rapidly deteriorating condition as well as the presence of the aneurysm, urgent surgery was performed.

On laparotomy through a midline incision, the bowel, both small and large, was dusky blue, congested, immobile and apparently in a pre-gangrenous condition, and

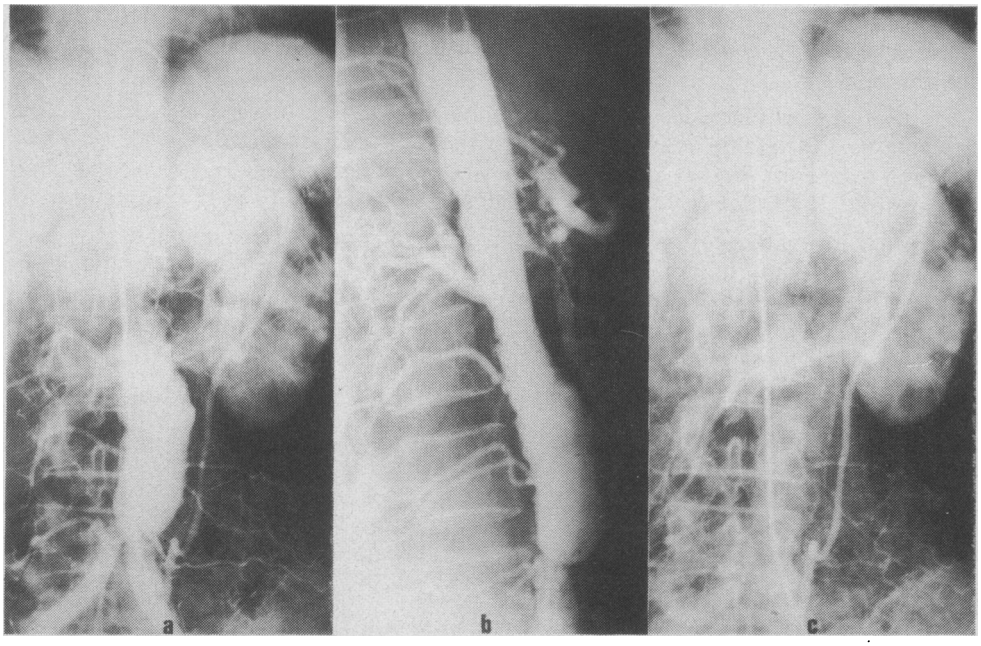

FIG. 2

(Case 2). (a) Aortogram showing the meandering visceral artery or arch of Riolan arising from the proximally occluded inferior mesenteric artery, the lumen of the abdominal aortic aneurysm and stenosis at the origin of common iliac vessels. (b) A lateral aortogram demonstrating stenosis at the origins of the coeliac axis and superior mesenteric artery, absent inferior mesenteric artery and the lumen of the abdominal aortic aneurysm containing clot anteriorly. (c) Late phase arteriogram demonstrating the meandering visceral artery more clearly.

on palpation mesenteric vessels were not pulsating. The posterior peritoneum was incised. The abdominal aortic aneurysm was over 5 cm in diameter and pulsation in the iliac arteries, especially the right, was only just discernible. It was argued that as the arch of Riolan was vital to the bowel, then clamping the infra-renal aorta in order to deal with the aneurysm would certainly have endangered the bowel, already in a precarious state of viability. Construction of the left iliac-superior mesenteric bypass, being time-consuming, was done first without compromising flow through the arch of Riolan. A 3 cm segment of the superior mesenteric artery distal to the occluded segment was exposed and controlled, as was the left common iliac artery.

An 8 mm USCI Sauvage Bionit graft was preclotted[9] and sutured obliquely end-to-side with 4/0 prolene into a 2 cm arteriotomy in the left common iliac artery. The graft was then directed upwards retroperitoneally across the midline and into a comfortable lie to be anastomosed obliquely end-to-side into a 2 cm arteriotomy in the superior mesenteric artery using 5/0 prolene. The abdominal aortic aneurysm and distal iliacs were then controlled, the aneurysm opened, evacuated of clot and an endarterectomy of the origins of the iliacs performed. The aorta was them

replaced using 14 mm USCI De Bakey woven dacron graft inserted by the inlay technique using 2/0 prolene suture. The prostheses were covered over with posterior peritoneum.

At the end of this procedure most of the bowel was restored to a normal colour and showed peristaltic activity, except for the terminal ileum and right colon which did not appear as vigorously viable. The abdomen was closed and a 'second-look' laparotomy the following day left no doubt as to the viability of the whole bowel.

Her postoperative course was uncomplicated and she was discharged having been established on dipyridamole and warfarin. At review six months postoperatively she was eating normally, was completely asymptomatic and had nearly returned to her normal weight. A postoperative angiogram (Fig. 3) demonstrated a patent functioning iliaco-mesenteric graft.

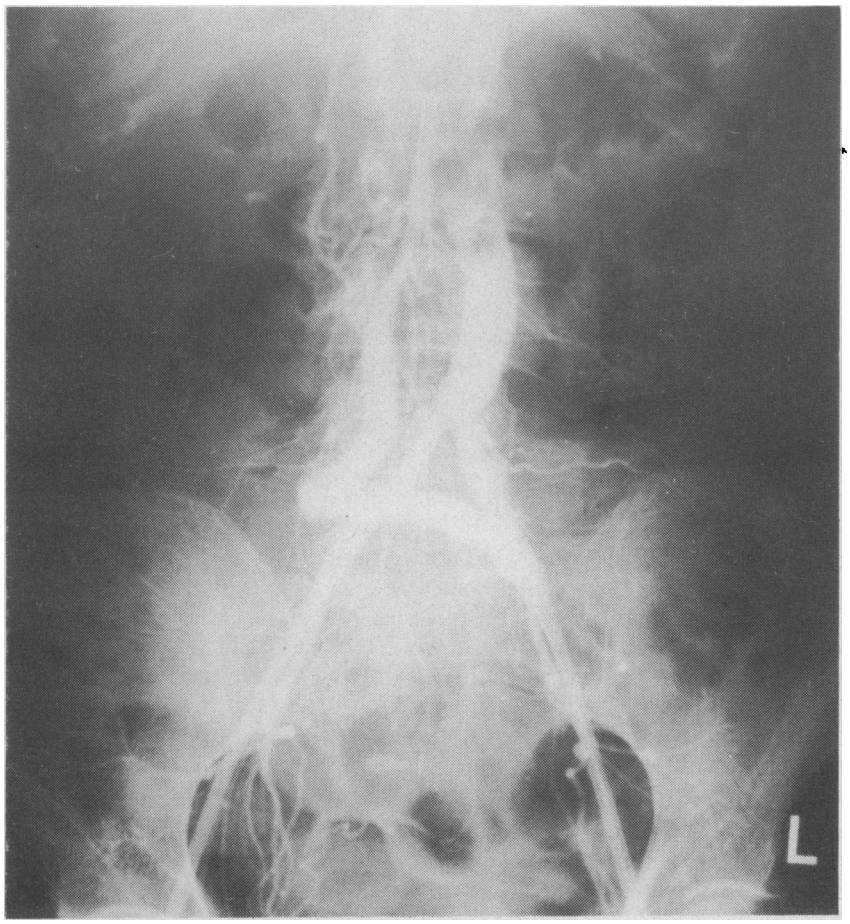

FIG. 3

(Case 2). A postoperative arteriogram demonstrating the aortic graft, the iliaco-mesenteric graft and filling of the superior mesenteric arterial tree.

DISCUSSION

These two patients demonstrate most of the typical clinical symptoms and signs of intestinal angina.[9, 10] Abdominal pain and weight loss are often the predominant symptoms, each being present in almost 100 per cent of cases. Other associated symptoms may include nausea, vomiting, diarrhoea or constipation. Malabsorption is rare as a presenting feature.[10, 11] The patient soon realises that food induces the pain. Weight loss has been aptly attributed to 'food fear' and reduced intake of food[13] and not to malabsorption.

An abdominal bruit, usually audible in these patients, is heard in one of every eight healthy adults,[12] so that its significance may be of dubious value. Evidence of associated cardiovascular disease is common as was observed in both patients described here: in one case angina, in the other an associated abdominal aortic aneurysm and occlusive disease of the iliac vessels. In one series,[10] 50 per cent of patients operated on for intestinal angina also required other vascular reconstructive precedures.

Specific biochemical investigation such as the D-xylose excretion test and serum carotene estimation have been suggested but these are generally unhelpful in making the diagnosis.[11] Exclusion of more common postprandial pain syndromes by radiological investigation of the biliary and upper gastrointestinal tract is usually necessary, though in many cases, the clinician may proceed with these studies having failed to recognise the syndrome of intestinal angina in the first instance.

The diagnosis is usually established by contrast angiography, in particular with the aid of a lateral aortogram and selective angiography of the coeliac axis, superior mesenteric artery and, if possible, the inferior mesenteric artery too. These studies will illustrate the classic features of either stenosis or occlusion of at least two or all three major visceral vessels. Lateral aortography is of crucial value for accurate assessment of visceral artery disease. In patients with intestinal angina, arteriosclerotic lesions are usually found to be severe in the proximal segments of these arteries but when angiography is performed for other reasons, the chance discovery of such lesions should not be accorded much significance. In populations where arteriosclerotic disease abounds, disease of these vessels is often noted, but the patient remains asymptomatic, protected by the rich collateral splanchnic circulation. Autopsy studies[14] have revealed stenosis or occlusion of these vessels in the absence of previous gastrointestinal symptoms. The demonstration of the meandering visceral artery or arch of Riolan on arteriography is usually suggestive of visceral artery occlusive disease, indicating the need to obtain a lateral view of the abdominal aorta.[15]

Surgical intervention in the management of mesenteric ischaemia first took the form of endarterectomy to restore visceral arterial blood supply.[6] Today, vascular reconstructive techniques consist mainly of bypass procedures using either a dacron prosthesis or a reversed saphenous vein graft[13, 15, 16] Endarterectomy has worked quite well, but as a rule, the technique is less efficacious either in terms of initial results or long term graft patency. A vein graft being autogenous with a living endothelial surface and possessing further attributes of compliance and pulsatility, is preferable to a prosthetic graft or endarterectomy and its use is recommended.[8] On the other hand, donor veins may be diseased, of poor calibre or absent. The predictable qualities of filamentous velour dacron prostheses,[9, 17, 18] in addition to

their assured calibre sufficient to deliver the large volumes of blood demanded by the gastrointestinal tract are arguments in favour of these grafts. The thoraco-abdominal approach allowing trans-aortic endarterectomy has been advocated,[19, 20] but by its very nature is likely to be attended by avoidable complications and a higher morbidity. More recently, percutaneous transluminal angioplasty has been used successfully in the treatment of intestinal angina.[21]

Revascularisation of the superior mesenteric artery was performed in both cases reported here by means of a dacron bypass graft originating from the left common iliac artery. This is an excellent high-flow source of blood for such a graft; it is easily approached and controlled, lies in a position convenient for inflow into the bypass graft, which, as in Case 1, can then be positioned entirely retroperitoneally and safely separated from hollow viscera.

The dangers of selective angiography for mesenteric ischaemia are clearly demonstrated by Case 1. Intimal disection or thrombosis are well recognised complications of arteriography and selective visceral angiography should only be performed in circumstances when a vascular surgeon is prepared to proceed immediately to an emergency operation if required. It is essential in such cases of dissection to proceed expeditiously to surgery as thrombosis and bowel infarction may occur rapidly, especially if the patient is dehydrated as was true in Case 1. It would be quite reasonable and sensible to warn the patient prior to angiography of the possibility of surgery soon after the study.

In the presence of multiple vessel disease the vascular reconstruction of a single vessel will usually relieve symptoms.[10-12] In a recent report,[8] the incidence of graft failure with recurrence of symptoms or disastrous mesenteric infarction has prompted the authors to recommend reconstruction of two or all three diseased arteries. This advice must be balanced by other considerations, not least of which are the cardiac risk factors, applicable to both cases described here, which militate against prolonged anaesthesia and numerous operations. The urgency with which surgery was performed in both patients, especially in Case 1, denied the preparation necessary to embark on further prolonged bypass procedures.

The major surgery required in Case 2 as a consequence of the additional features of an abdominal aortic aneurysm and common iliac artery occlusive disease could not reasonably have been extended further. The value of the 'second-look' operation to confirm intestinal viability is underlined.

Occlusive disease of the visceral arteries is often noted at arteriography in patients who have no associated symptoms. In a recent report[15] such angiographic evidence of severe occlusive disease in asymptomatic patients has been treated as a risk, leading the authors to perform concomitant prophylactic revascularisation of the intestines during standard aorto-iliac reconstruction. An aggressive approach based on angiography alone should be questioned and is unlikely to gain widespread acceptance.

SUMMARY

The characteristic history and findings in two patients with intestinal angina are presented. The investigation and surgical management of this rare clinical syndrome which is probably under-diagnosed are discussed. A greater awareness of the clinical picture of chronic mesenteric ischaemia and a readiness to perform the appropriate

investigations with a view to surgical revascularisation may avert the disastrous consequences of mesenteric infarction and its considerable attendant mortality.

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WILSON'S DISEASE IN ONE IDENTICAL TWIN AND TREATMENT BY TRIETHYLENE TETRAMINE 2HCl IN ANOTHER CASE

by

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WILSON'S disease is a rare genetic condition associated with excess copper deposition in the tissues, principally liver and brain. It first became established as a clinical entity in 1912, following Kinnear Wilson's publication of thirteen cases.[1] The incidence has been estimated to be about one case per million of the population[2] although Walshe[3] considers it is likely to be more common than this. Since it is a condition which can be effectively treated, early diagnosis is essential.[3, 4]

In the space of six months, two cases with contrasting features have presented to the Department of Neurology.

CASE 1 AG AGED 17 MALE

In 1979 this patient, one of identical twin brothers, joined the army, but disliked it and left after serving only three months. He then worked in a butcher's shop but left six months later, at the end of 1979, when he lost interest in this too. His family noticed that he had become less sociable and he slept a great deal. By the summer of 1980 he had developed a peculiar nodding action of his head and he had become so withdrawn that medical help was sought. A possible diagnosis of schizophrenia was considered and he was admitted for psychiatric care.

Over the next four months, he remained withdrawn and he developed slurred speech and unsteadiness of walking. From December, 1980 to March, 1981 his condition deteriorated rapidly with severe difficulty speaking and swallowing, and increasing limb stiffness. By this time he was unable to walk and could not feed himself.

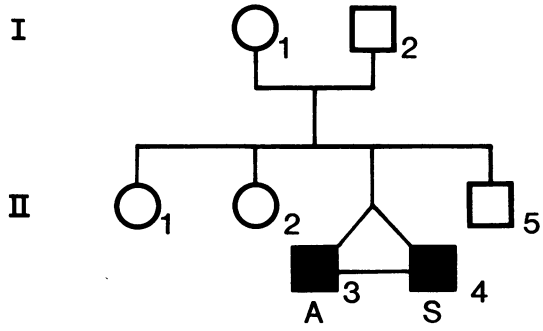
On admission to the Neurology Unit he had a totally immobile face, was unable to speak and had great difficulty in swallowing. There were no involuntary movements, but the limbs showed a severe degree of rigidity.

On examination of the eyes characteristic Kayser-Fleischer rings were found and a confident diagnosis of Wilson's disease was made. This was confirmed by the biochemical findings of low serum copper, low serum caeruloplasmin and raised urinary copper clearance (Table 1). Liver function tests were normal apart from a marginally elevated alkaline phosphatase to 149 u/l (normal 35-105). Liver biopsy showed a marked increase in fibrous tissue and some nodular degeneration. The copper content of this tissue was not estimated.

The family tree is shown in Fig. 1. A feature of particular interest is the occurrence of this condition in one of identical twins. Confirmation of identical genotypes was obtained by a detailed comparison of blood groups (Table 2). The brother showed no clinical evidence of the disease. His biochemical findings (II^4) and those of the rest of the family are shown in Table 1.

Fig 1

Family Tree of Case 1



	NORMAL	I[1]	I[2]	II[1] 34yrs	II[2] 24yrs	II[3] 17yrs	II[4] 17yrs	II[5] 13yrs
SERUM COPPER	13 - 26 µmol/l	17	10 ↓	22	10	3 ↓	2 ↓	12 ↓
SERUM CAEURULOPLASMIN	0.27 - 0.63 g/l	0.27	0.17 ↓	0.38	0.17 ↓	<0.09 ↓	0.04 ↓	0.18 ↓
URINARY COPPER CLEARANCE	0.2 - 1.6 µmol/24hrs	1.5	1.5	1.8 ↑	1.8 ↑	3 ↑	1.1	1.6

* PATIENT AG
↑ ABOVE NORMAL RANGE
↓ BELOW NORMAL RANGE

TABLE 1. BIOCHEMICAL PARAMETERS FOR FAMILY OF CASE 1.

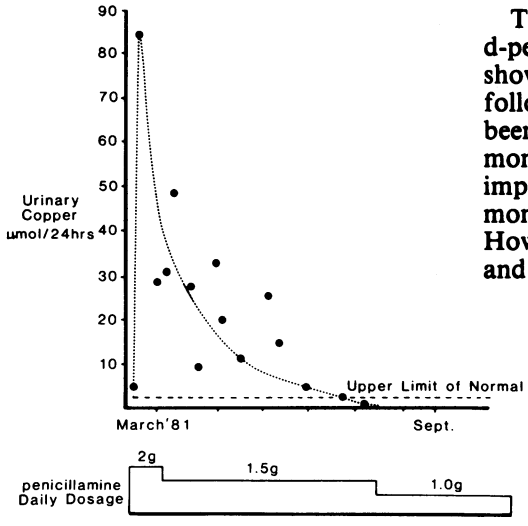


Fig 2 Effect on urinary copper clearance by penicillamine in Case 1

Treatment was commenced with d-penicillamine, 2 grams daily. Fig. 2 shows the increased clearance of copper following treatment. Clinical response has been disappointing. During the first three months of treatment there was some improvement in swallowing and after 18 months he is able to walk with help. However, he remains severely disabled and still unable to speak.

CASE 2 BM AGED 24 FEMALE

This young woman, who works as a clerk, presented with a history of unsteadiness on her feet and frequent falls, over a period of six months. The unsteadiness had become gradually worse and she had also experienced difficulty with writing, and drinking from a cup, because of shaking hands.

NAME	ABO	Rh Geno	K	$\bar{k}$	Fy^a	Fy^b	JK^a	JK^b	Le^a	Le^b	M	N	S	$\bar{s}$	P_1
AG	0	R_1r CDe/cde	-	+	-	+	+	+	+	-	-	+	-	+	+
SG	0	R_1r CDe/cde	-	+	-	+	+	+	+	-	-	+	-	+	+

TABLE 2. COMPARISON OF BLOOD GROUPS IN TWINS

On examination, she was euphoric and had a variable coarse tremor of the upper limbs at rest. It was made worse by voluntary movement and tended to become quite violent at times of excitement. She is right handed and this side was more severely affected. Tone was normal and there was no weakness. Her gait was ataxic and at times this became so severe that she almost fell. There was no nystagmus.

Initially a diagnosis of multiple sclerosis was considered likely, but examination of the eyes again showed the diagnostic Kayser-Fiescher rings of Wilson's disease. Biochemical screening confirmed the abnormal copper metabolism. She has three siblings, none are affected clinically.

Treatment was started with d-penicillamine 2 grams daily. There was a good biochemical response (Fig. 3) and clinically her condition also improved. However, following discharge from hospital compliance was poor despite reduction of dosage to 500 mg daily. She developed nausea and a skin rash, and had one episode of jaundice, probably haemolytic type (this occurred while she was at home and confirmatory tests were not obtained).

Her clinical condition had deteriorated markedly by the end of 1981 and a further attempt was made to achieve a therapeutic dose of penicillamine using steroid cover. Unfortunately side effects, particularly nausea proved again troublesome and the drug had to be abandoned.

In February, 1982 triethylene tetramine dihydrochloride (Trien) was introduced at a dose of 600 mg daily increasing to 1500 mg daily and this has been successful in maintaining a good urinary copper clearance (Fig. 3) with good tolerance. Her clinical condition also improved as shown by her writing and drawing. Unfortunately this patient's compliance with drug therapy has again been suspect and the case continues to cause problems in management.

DISCUSSION

These two cases clearly demonstrate the variety of clinical manifestations of neurological Wilson's disease and the difficulty which the diagnosis may present. The importance of the diagnostic sign of Kayser-Fleischer rings cannot be over emphasised and these should be carefully looked for by slit lamp examination if necessary, in any unusual neurological syndrome in young people. Wilson's concept of progressive lenticular degeneration is now recognised as too narrow since copper is deposited throughout the brain including the cerebellum and cerebral cortex, and not just in the basal ganglia.[5] Damage can occur at any of these sites and give rise to a variety of clinical manifestations. Walshe[3] stresses this point and lists the

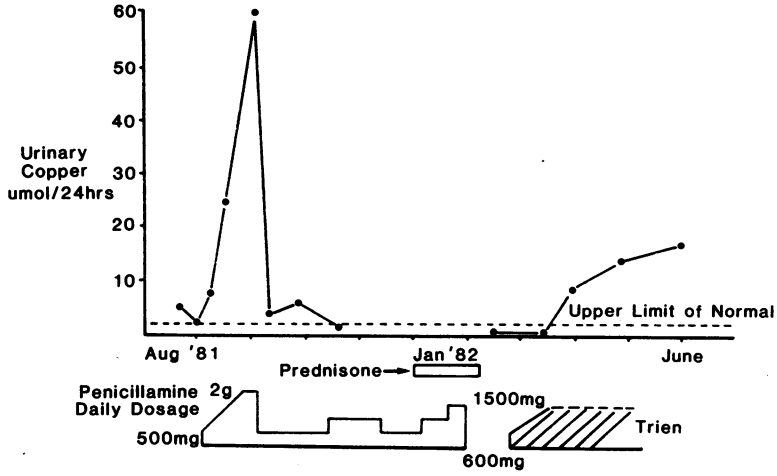


Fig 3 Effects on urinary copper clearance by penicillamine and then triethylene tetramine in treatment of Case 2

following features which have been documented in neurological Wilson's disease; tremor, which may be of the Parkinsonian or intention variety, ataxia, rigidity, drooling, dysphagia, behaviour disorders, in particular euphoria and intellectual impairment, and seizures are also occasionally seen. A useful maxim is that no two cases of neurological Wilson's disease are entirely alike.

In retrospect our first case most closely fitted the classical text book description of an extra pyramidal, Parkinsonian-like syndrome, but initially it was the behavioural disorder rather than any physical problem which caused diagnostic confusion. In the second case the presenting features were largely those of a cerebellar disorder.

The ages of our two patients were 17 and 24 years, consistent with Walshe's[3] average age of presentation in his series as 18.9 (range 5-40). Cases with a predominantly hepatic presentation tend to be younger (average age 11.4 years).

Since the disease is inherited as an autosomal recessive trait, it is imperative to screen siblings for early clinical features and biochemical abnormalities, a point dramatically illustrated in Case 1, where an identical twin was asymptomatic. He is now being treated prophylactically with 1 gram of penicillamine daily. We are aware of no other published instances of identical twins with Wilson's disease but J. M. Walshe knows of two unpublished cases (personal communication). It is perhaps surprising that the twins should have been affected to such a different degree. This must be environmentally determined and most obviously suggests a difference in dietary copper intake. The boys were brought up together and have never been apart, including a short period when they were both in the army. Their eating habits have always been similar, but for a period of at least eighteen months, A. G. drank a large amount of Coca Cola each day. His brother drank relatively little. Each can of Coca Cola contains 0.1 mg. of copper.[6] The average daily intake of dietary copper is 2-5 mg.[7] If A. G. consumed five or six cans of Coca Cola daily (his reported

average) this could represent a 10-25 per cent increase in copper intake compared to his brother and may have been the crucial environmental difference.

It is of note that heterozygote carriers show biochemical changes in the same direction as affected individuals but usually to a less marked degree.[3] This is seen in Table 1 where A. G.'s parents, who must be heterozygotes, have mildly abnormal or borderline normal values. The siblings, other than his twin, have at least one mildly abnormal change and may be heterozygotes. The ranges of biochemical values for affected individuals and heterozygotes are so wide that they can over-lap and this sometimes makes it difficult to differentiate between an affected presymptomatic individual who needs treatment and a carrier who does not.

Walshe suggests that in such cases a liver biopsy should be carried out for histological examination and copper estimation. However, the latter is difficult with a small amount of biopsy material and histochemical methods have often been found to be unreliable.[8] It was also our experience with the liver biopsy from Case 2 that several histochemical techniques failed to demonstrate copper despite characteristic histological changes both by light and electron microscopy.

Treatment is designed to promote the mobilization and excretion of excess copper deposited in the tissues. The drug of choice is d-penicillamine, a chelating agent introduced in 1956.[9] The clinical results can be very rewarding provided treatment is not delayed until neurological damage is irreversible. This is presumably the situation in our first case, although improvement may sometimes be delayed for a year or more after the initiation of treatment.[3] Toxic reactions to penicillamine are not uncommon; these include urticaria and other skin rashes, nausea, anorexia, vomiting, fever, thrombocytopenia with or without leucopenia and a collagen disease-like reaction. Other less common signs of toxicity are mouth ulceration, pyridoxine deficiency, skin fragility, nephrotic syndrome, haemolytic anaemia and Goodpasture's syndrome.

Fortunately a newer drug, triethylene tetramine dihydrochloride (Trien) was introduced in 1969[10] and has been shown to be an equally effective chelating agent although acting in a slightly different way.[11] Certainly in Case 2 the effect of the preparation in producing copper excretion was excellent (Fig. 3) and recent authors[12, 13] report continued effectiveness and safety with long term administration.

The drug has only recently become commercially available (1978) and has not been subject to formal toxicity testing. Trien has therefore not yet been approved by any national committee. However, it remains the only practical alternative drug to penicillamine in this disease and has proved biochemically and clinically effective in this case.

SUMMARY

The clinical presentation, investigation and management of two recent cases of neurological Wilson's disease are described. Various aspects of the disorder are discussed and the variety of clinical presentation emphasised.

The first case occurred in only one of monozygotic twins and a possible explanation for this is considered. In the second patient serious side effects resulted from the use of penicillamine, and a new drug triethylene tetramine dihydrochloride (Trien) was successfully used as an alternative chelating agent.

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I am grateful to Dr. M. Swallow for his permission to report these cases and for his generous help and advice.

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THE HEART IN RHEUMATOID ARTHRITIS (RHEUMATOID DISEASE) — AN ECHOCARDIOGRAPHIC STUDY

by

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IT has been known for many years that the heart may be involved in rheumatoid arthritis. Initially rheumatoid granulomata, amyloidosis, endocarditis, subacute myocarditis and constrictive pericarditis were recognised in early clinical and post-mortem studies.[1, 2, 3] More recently the echocardiogram has demonstrated pericardial effusions in up to 46 per cent of patients with rheumatoid arthritis.[4, 5] Many early studies were uncontrolled and therefore it was proposed to examine a series of patients with rheumatoid arthritis, correlating echocardiographic findings with clinical, electrocardiographic and radiographic features and comparing the echocardiograms of the patients with those of an age/sex matched control group.

PATIENTS AND METHODS

Thirty-three consecutive patients, between the ages of 20 and 70 years, admitted to the Musgrave Park Hospital during an acute phase of their rheumatoid arthritis and who all fulfilled the criteria of the American Rheumatism Association[6] were studied. Within seven days of admission each patient had a cardiological assessment which included a history and examination with P.A. chest X-Ray, electrocardiogram and M-mode echocardiogram. Control echocardiograms were recorded from 20 age/sex matched control subjects.

RESULTS

Twenty-eight female and five male patients were studied. The mean age was 54 years (range 28-70 years).

The symptoms relating to the cardiovascular system are presented in Table 1. The commonest symptoms were palpitation in six patients (18 per cent) and chest pain suggestive of angina in five patients (15 per cent).

The signs of cardiovascular disease are shown in Table 2. An ejection systolic murmur was heard in 10 patients (30 per cent) and an abnormal fourth heart sound was heard in nine patients (27 per cent). No patient had a pericardial rub.

The electrocardiographic findings are summarised in Table 3. Left bundle branch block was found in only one patient (3 per cent) and localised 'T' wave changes more suggestive of ischaemic heart disease than of pericardial disease were present in two patients (6 per cent). The electrocardiogram was normal in 30 out of 33 patients.

The chest X-Ray findings are shown in Table 4. The chest X-Ray was normal in 26 patients (79 per cent). Five patients (15 per cent) had cardiomegaly defined as a cardiothoracic ratio of greater than 50 per cent. Four of these patients had symptoms suggestive of ischaemic heart disease. There was no correlation between cardiomegaly and the presence of a pericardial effusion. No patient had radiographic evidence of constrictive pericarditis.

TABLE 1

Symptoms in 33 Rheumatoid Patients

Palpitation	6 (18%)
Chest Pain	5 (15%)
Shortness of Breath on exercise	3 (9%)
Orthopnoea	2 (6%)

TABLE 2

Physical Signs in 33 Rheumatoid Patients

Systolic Murmurs	10 (30%)
Diastolic Murmurs—Mitral	1 (3%)
—Aortic	1 (3%)
Fourth Heart Sound	9 (27%)
Pitting Ankle Oedema (mild)	3 (9%)
Pericardial Rub	0 (0%)

TABLE 3

Electrocardiographic Findings in 33 Rheumatoid Patients

Abnormal 'T' waves	2 (6%)
Left Bundle Branch Block	1 (3%)
Unifocal Ventricular Ectopics	1 (3%)

TABLE 4

Chest X-Ray Findings in 33 Rheumatoid Patients

Cardiomegaly	5 (15%)
Pulmonary Fibrosis	2 (6%)
Pulmonary Emphysema	2 (6%)

The echocardiographic findings are shown in Table 5. Fourteen patients (42 per cent) had a small pericardial effusion. Three patients (9 per cent) had only anterior effusions, six patients (18 per cent) had only posterior effusions and five patients (15 per cent) had both anterior and posterior effusions. Nine patients (27 per cent) had abnormalities of the mitral valve motion which included prolapse of the posterior cusp in one patient and shatter of mitral valve echoes in diastole in five patients (15 per cent). One of these patients had clinically evident aortic incompetence but the others were asymptomatic and did not have audible diastolic murmurs. An abnormally low diastolic closure rate (EF slope less than 5 cm/sec) was found in seven patients (21 per cent). One patient who had a history of rheumatic fever had an EF slope of less than 1 cm/sec in addition to abnormality of posterior cusp motion and left artrial enlargement, confirming a clinical diagnosis of mitral stenosis. There was an increased left ventricular diameter in five patients, all of whom had either hypertension or symptoms of heart disease. The only echocardiographic abnormality in the control group was right ventricular hypertrophy in one patient.

TABLE 5

Echocardiographic Findings in 33 Rheumatoid Patients

Abnormality	*33 Rheumatoid Patients*	*20 Control Subjects*
Pericardial Effusion	14 (42%)	0
Decreased Mitral EF Closure Rate	7 (21%)	0
Shatter of M.V. Echoes	5 (15%)	0
Mitral Valve Prolapse	1 (3%)	0
Total Incidence of M.V. Abnormality	9 (27%)	0
Right Ventricular Hypertrophy	0	1 (5%)
Total Incidence of Echo Abnormality	25 (76%)	1 (5%)

DISCUSSION

Although post-mortem studies have shown a high incidence of cardiac involvement in rheumatoid arthritis,[1, 2] these are difficult to detect clinically—only 41 case reports of rheumatoid pericarditis had been published until 1972.[7] It is, however, important to recognise these lesions as treatment may be beneficial. The echocardiogram has been shown to be a reliable and sensitive method of identifying pericardial effusions.[8] The high incidence of pericardial effusions found in this series correlates well with previous studies.[4, 5, 9] Most of the effusions were small and relatively localised. The greater proportion of posterior effusions is in keeping with other series,[4, 9] The reduced EF slope found in some patients may be an indicator of reduced ventricular compliance. The unexpectedly high incidence of mitral valve shatter in diastole may indicate the presence of very mild aortic incompetence, which has not yet produced audible diastolic murmurs or haemodynamic changes. Both these groups of patients should have careful follow-up including repeat echocardiography to detect at an early stage the possible development of clinically significant heart disease. This is especially important as the progress of aortic valvular disease in rheumatoid patients can be rapid. The high total incidence of echocardiographic abnormality also correlates well with previous studies.[5] In our controlled study the figure of 76 per cent abnormality was significantly higher than that in the control group which had only one abnormal echocardiogram ($p < 0.001$).

The high incidence of systolic murmur, which was not thought to indicate cardiac valvular pathology has been noted in other series.[1] Some of the murmurs may have been due to a co-existing anaemia related to acute rheumatoid disease. The abnormal fourth heart sound was present in all patients with symptoms suggestive of heart disease but was also heard in several patients with no cardiac symptoms. Contrary to expectation there was no correlation between a reduced EF slope and the presence of a fourth heart sound.

As in previous studies the presence of a pericardial effusion did not correlate with symptoms or signs of heart disease or with electrocardiographic or radiological abnormality. This makes the detection of cardiac involvement largely dependent on the echocardiogram. Our finding of a very much higher incidence of subclinical cardiac involvement in patients with rheumatoid arthritis than in control subjects suggests that an echocardiogram should be a necessary investigation of these patients.

SUMMARY

Thirty-three patients with rheumatoid arthritis were analysed clinically and with electrocardiogram, chest X-Ray and echocardiogram. Fourteen patients (42 per cent) were found by echocardiography to have pericardial effusions, not detectable by other means. Some patients showed changes suggesting early valvular disease and these patients should have repeat echocardiography at follow-up. In conclusion the echocardiogram is a sensitive and reliable diagnostic aid for the detection of cardiac lesions in rheumatoid arthritis.

ACKNOWLEDGEMENTS

This work would not have been possible without the technical assistance of Mr. T. Gage and Miss G. McParland.

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ROBERT LITTLE, MA, MD, LAH, LM

Professor of Midwifery and Diseases of Women and Children
Royal Belfast Academical Institution, 1835-40

A Biographical Note

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ONE of us (PF) has described the unusual circumstances which led to the resignation, from his chair at the Royal Belfast Academical Institution (hereinafter RBAI), of Robert Little, one of five foundation professors of the RBAI faculty of medicine.[1] The article included a short Appendix of biographical details which recent serendipitous findings prove to have been incomplete and in places erroneous. This present note is the result of more comprehensive research.

INFORMATION

Robert Little was the younger of the two surviving children (both sons) of a farmer whose family had been settled in Killyvolgan, near Ballywalter, County Down, for several generations.[2] He was born in the family homestead (Fig. 1)[3] probably in 1801.[4] Nothing is known of him until 1822 when he enrolled in Professor Jeffray's anatomy class at the University of Glasgow for the 1822-23 session[5] (1 November 1822-30 April 1823), and then for the 1823-24 session he took classes in the Royal College of Surgeons in Ireland for which certificates for "Anatomy and Physiology [and] the Theory and Practice of Surgery," "Dissections and Anatomical Demonstrations," and for clinical lectures and diligent attendance to the practice of surgery at the Richmond Surgical Hospital, survive (Fig. 2).[6] The regulations of Glasgow University required that only one of the three years (or rather sessions of six months) of the curriculum need be taken in the University[7] and it was not unusual for the numerous students from Ulster[8] to take two years' study elsewhere. Little, however, decided to take two sessions at Glasgow and he again enrolled in Jeffray's class for the 1824-25 session.[5] His whereabouts for the next year are unknown—possibly getting class certificates for the other mandatory subjects on the extensive curriculum[7]—but he received the Glasgow University MD on 23 March 1826[9] and also that year the Licence in Midwifery (LM).[10]

Sometime between then and July 1827, when he became a member of the Belfast Medical Society,[11] he settled in Belfast.[12] On 1 November 1827 he qualified Licentiate of Apothecaries Hall (LAH) in Dublin[13] and in May 1828 he was appointed medical attendant to No. 4 District of the Belfast Fever Hospital dispensary, *viz.*, that "bounded by Lodge-lane, Millfield, Mill-street, and Falls road," sharing duties with Dr. T. H. Purdon then, during 1829-30, with Surgeon

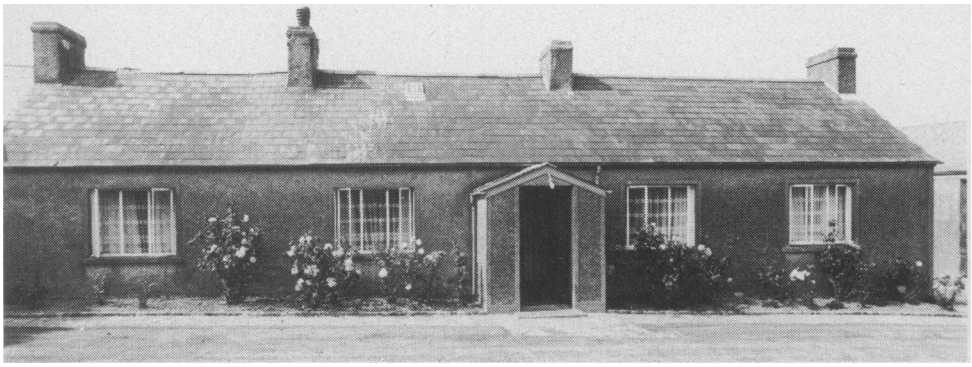
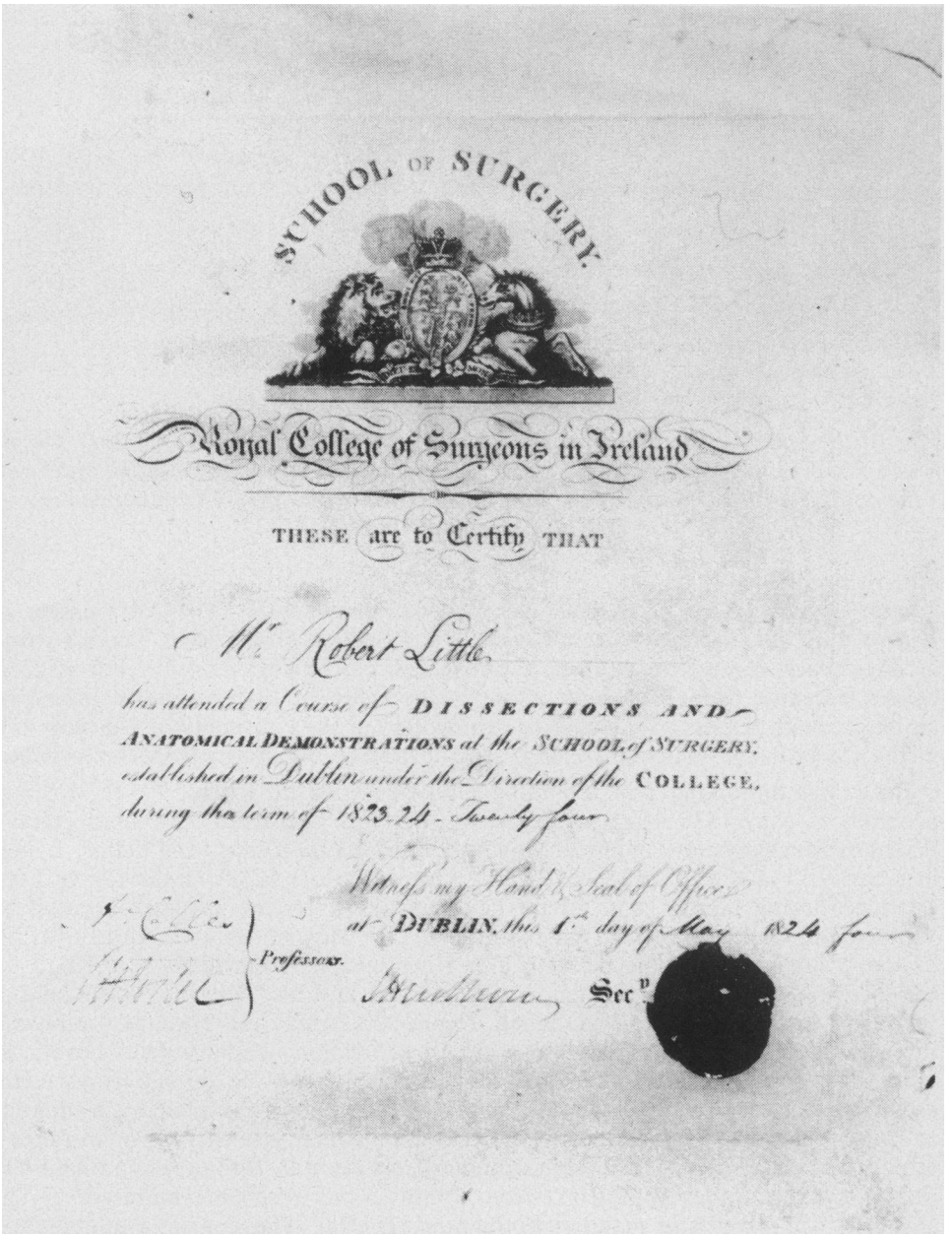


FIG. 1

The Little family former homestead at Killyvolgan, Ballywalter, County Down where Robert Little was born probably in 1801. The left-hand section is the older but the complete house (without the porch) is shown in the 1835 Ordnance Survey. (See also references note 3).

Joseph Bryson.[14] One of us (PF) has recorded elsewhere[1, 15, 16] Little's career in Belfast until his resignation from his chair at RBAI on 5 May 1840 "having made arrangements to leave the country about the 1st of the next month"[1] but original papers recently uncovered now allow us to refer to his previously unknown ambitions with respect to the chairs of midwifery at the University of Glasgow and in the Queen's University in Ireland[17] and to add to our biographical knowledge.

Little was appointed an "attending physician" to the Belfast Fever Hospital probably in May 1830 when his degree of MD was "accepted" by the hospital's Board of Management.[18, 19] On 20 May he opened his *soi-disant* "the Belfast Lying-in Charity,"[1] and in its first five years "upwards [of] 1,200 females have been attended during labour; and advice has been given on the Diseases peculiar to Women and Children, to nearly 8,000 patients."[20] He also lectured students at his "Charity" as well as at the Belfast Fever Hospital and, from 1832-3, at RBAI on the theory and practice of medicine.[16] Both Little and his "Charity" were held in favour by *inter alios* James McDonnell, Henry McCormac and Thomas Andrews,[22] three of the leading luminaries of the Belfast profession, while students benefitted from the practical experience: "The advantages which may be derived by a student attending cases of Practical Midwifery under Dr. Little, will be found much superior to those which he will have during his collegiate course elsewhere. For instance I attended the Midwifery Hospital in Edinburgh six months, during which time I had only four cases: under Dr. Little, twelve months, I had nearly one hundred."[23] The "Charity" however is as shadowy as the praise is clear. The (sparse) available facts have been collected in a previous article:[1] it is not to be confused with the larger Lying-in Hospital, then in Donegall Street, and forerunner of the Royal Maternity Hospital. It was Little's defence of the form of the diploma which he issued to students at his "Charity," and his insistence on his autonomy in the matter, that led to his difference with, and resignation from his chair at, RBAI.


SCHOOL OF SURGERY.

Royal College of Surgeons in Ireland

THESE are to Certify THAT

Mr Robert Little

has attended a Course of DISSECTIONS AND ANATOMICAL DEMONSTRATIONS at the SCHOOL of SURGERY, established in Dublin under the Direction of the COLLEGE, during the term of 1823.24 - Twenty four

Witness my Hand & Seal of Office at DUBLIN this 1st day of May 1824 four

Professors.

Secy

FIG. 2

A class certificate for 1822-24 in "Dissections and Anatomical Demonstrations" issued by the Royal College of Surgeons in Ireland to Robert Little. It measures 14½ x 10½ inches. The originals of those certificates mentioned in the text are in the possession of Dr. H. A. Warnock, Fortfield, Ballywalter.

In 1833, despite being only seven years in practice, Little applied for the Regius Chair of Midwifery at Glasgow University[24] which had fallen vacant on the death of the incumbent John Towers. Nine of the 24 testimonial letters which he submitted were written primarily for this purpose:[21] they are dated between 20 and 23 November 1833. Ironically by this time the chair was filled through a Commission issued by the King on 16 October to Dr. Robert Lee, though Little, and other potential applicants for that matter, would not have known this because Lee's appointment was not reported to the University Senate until 20 March 1834, five months later, and despite the Crown Commission he was not admitted to office until 30 April![25]

This was not, however, to be the end of Little's academic ambitions for a university chair. He reprinted his book of testimonials in 1844,[26] and the following year, while probably living in Wolverhampton (see below), he obtained a reference from Henry Cooke, DD, dated 16 December 1845, which finishes "I consider him [Little] eminently qualified to fill the Chair of Midwifery to which he especially aspires, in any of the Irish Colleges [Belfast, Cork, Galway] about to be erected by her Majesty's government."[17, 27] He seems nonetheless not to have been a candidate when these chairs were to be filled in 1849.[28]

Little probably left Belfast in the summer of 1840.[1] During his 14 years in the city he had lived at four addresses[29] and this local *wanderlust* was now to be acted out on a larger stage. By this time he had married,[2] and there is a family belief that his wife dictated the wanderings! We have been unable to trace his immediate destination but he turns up as practising in Wolverhampton from at least as early as 1846 or 1847, first at 9 Church Street, and, from 1850 or 1851, at Darlington Street,[30] and by 1861 he had moved to 9 New Bridge Street, Manchester, from which address he registered under the 1858 Medical Act for the first time on 24 May 1860.[31] He was soon again on the move, this time to Holywood, Co. Down, probably in 1862,[32] and then in 1862 or 1863 he seemingly went to Scone, a small dairying centre in the mountains near the Hunter river about 150 miles north of Sydney, New South Wales.[33] We have no idea what prompted this self-imposed exile starting when he was over sixty: retirement, adventure, variety, *wanderlust,* family reasons? Nor do we know if his exile was all spent in Scone; but wherever he ranged he was back in Belfast by 1867 or 1868 this time at 10 College Street South,[34] voting for Thomas McClure in the 1868 elections,[35] still on the *Medical Register,* though we can't know whether or not in active practice.[36] He was certainly not connected with the Belfast General Hospital whose staff he had left in 1840,[37] nor seemingly did he rejoin the Belfast (since 1862 the Ulster) Medical Society.[38]

Little was now in his seventies but his restlessness was unabated. At some time between 1870 and 1876 he moved to 105 Botanic Road.[39] Then, in 1881 or 1882, he moved to Donaghadee[40] perhaps on his attaining eighty, perhaps for reasons of health, perhaps at his wife's whim (again!) or on her death; but whatever the reason he soon tired of the seaside's attractions and within two years was back in Belfast, this time at 83 Corporation Street,[41] and then in 1886 or 1887, when well in his eighties, he moved to probably his final address—4 College Street South near the house he occupied on his return from abroad 20 years before.[42] He died on 27 February 1889 aged 87 and was buried in a family grave near the west wall in the Abbey graveyard at Greyabbey, Co. Down, two miles from his ancestral

homestead.[43] His only relics are an armchair ("the Doctor's chair") and a mahogany writing box with inscribed plate (Fig. 3) both in possession of his brother's descendants.

COMMENT

Little was a leading Belfast practitioner for over a decade (1827-1840): attending physician at the Belfast Fever Hospital (from 1830); *ad hoc* lecturer (1832-35) then professor (from 1835) at RBAI; treasurer, then president (dean), of the RBAI faculty of medicine (from 1835);[44] member of the Belfast Medical Society (from 1827); physician to the Ulster female penitentiary; physician accoucheur to his *soi-disant* "Belfast Lying-in Charity" (from 1830); author of a book on phthisis and several learned articles; recipient of favourable testimonials from the leaders of the Belfast profession; and university professor *manqué*. When he emigrated in 1840 there was small sign that the diploma affair at RBAI had affected him adversely:[1] he even considered returning to a Queen's College! Yet he seems to have subsequently confined himself to peripatetic private practice in other lands: we find no evidence of a subsequent hospital appointment or of further contributions to the literature. Equally unusual, his return to Belfast in 1867 or 1868, even though he was now

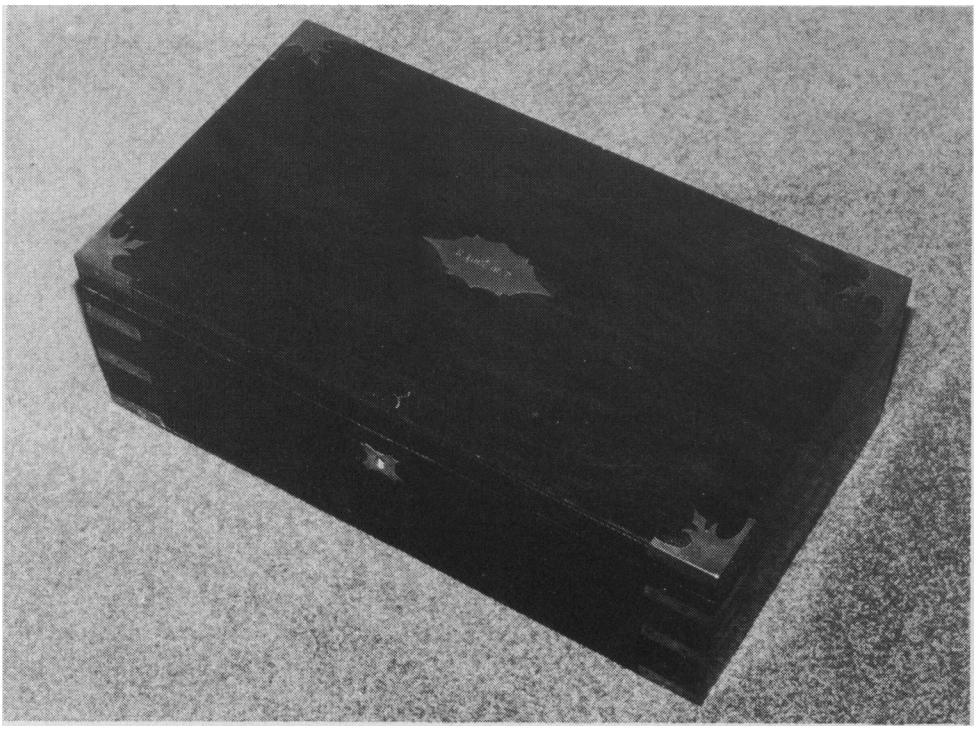


FIG. 3

A brass-bound mahogany writing box 19¾ x 11 x 6½ inches inscribed "R. Little M.D.," one of Little's few relics. It is in the possession of his great-grand nephew, Mr. George Little, The Firs, Killyvolgan, Ballywalter.

about 65, seems to have been unremarked, nor did he from the admittedly incomplete evidence, re-establish contact with the medical bodies he had previously graced. Strangest of all, his death seems to have gone unrecorded in professional journal, society, institution, or hospital minutes, or even in regional or local newspapers. Perhaps the RBAI affair had left its mark on his local professional standing (it was the cleric Henry Cooke, admittedly an influential one and no friend of RBAI, rather than a medical colleague who supplied his 1845 testimonial[17]); perhaps his travels had sapped his academic ambitions; perhaps simply his exile had pulled him from the centre of the stage to a permanent place in the wings of a rapidly growing Belfast when he returned to semi-retirement. We can't know.

More pragmatically, Little's emigration and eclipse, and the absence of memorabilia, documents, and letters, have made our task difficult and in part explain the lapses in a previous article.[1] Serendipity played a large part in our researches; Dr. Warnock's information might well have remained untapped but for his interest in writing to us. There are many gaps in the information in this note and a previous one[1] but we hope to have saved this respected co-founder of our first joint "preparatory" medical school from virtually complete oblivion.

ACKNOWLEDGEMENTS

We are indebted to Mr. George Little, The Firs, Killyvolgan, Ballywalter, a great-grand-nephew of our subject, for allowing us to photograph the homestead and writing box in Figures 1 and 3, and to Dr. H. A. Warnock, Fortfield, Ballywalter, for lending us the certificate which appears as Figure 2. Both also helped in many other ways and Dr. Warnock first drew our attention to the Little tombstone in the Abbey graveyard, Greyabbey (See references note 43).

NOTES and REFERENCES

1 Froggatt P. The resignation of Robert Little from the chair of midwifery at Inst. *Ulster Med J* 1979; **48**: 19-31. The five were: Robert Little, J. D. Marshall, Thomas Andrews, John MacDonnell, and J. Lawson Drummond.

2 For information on the Little family background we are indebted to Mr. George Little, The Firs, Killyvolgan, direct descendant of Robert Little's elder brother, who still holds the family land, and to Dr. H. A. Warnock, formerly medical officer in charge, maternal and child health division, Belfast County Borough, whose family is connected to the Little family by marriage. There have been Littles in Killyvolgan and one or other of the neighbouring townlands of Black Abbey, Ballybryan and Inishargy since at least the late seventeenth century. The *Griffith Valuation* of 1863 records William Little, Robert's elder brother, as holding over 63 acres in Killyvolgan and a further two in Black Abbey; a Hugh Little is in possession of over 30 acres in Black Abbey.

3 Part of the house was rebuilt in 1955 but the first Ordnance Survey of 1835 shows the same elongated cottage, without however its present porch. The oldest part of the building is the northern (left) half.

4 The date of death on the tombstone is 27 February 1889 "aged 87 years." Existing baptismal records for Ballywalter First Presbyterian Church commence only in 1824, and for Second Ballywalter, in 1820.

5 We are grateful to Dr. Derek A. Dow, Archivist, Greater Glasgow Health Board, for this and certain other information on Little's Glasgow career.

A "Robert Little, Hilsborough" received the General Certificate of RBAI (a three-year post-school course in the faculty of arts) in 1820 and is entered in the (incomplete) School Album for that year as "Parents or Guardians and Residence: James Little, near Drumbo." A "William Little" is entered for 1819 (no parents, guardians, or residence given) but did not receive the Certificate. Despite the address the coincidence is striking especially since no other Littles are listed for

1814-23. It was common for particularly country presbyterians to study at RBAI prefatory to a university, and the address given may have been of a relative (possibly even the boys' father, if we may identify this James Little of Drumbo with the James Little "late of Inishargy" on the family gravestone). Certainly the dates are about right for the Little brothers of Killyvolgan! See also Note 43 below. (School Album 1814-1876 (PRONI: SCH524/1A/1); Fisher JR, Robb JH. *Royal Belfast Academical Institution: Centenary Volume, 1810-1910.* Belfast: McCaw, Stevenson & Orr, 1913, pp. 211, 248-9).

6 These three class certificates and other papers are in the possession of Dr. H. A. Warnock (see note 2 above). RCSI records are unhelpful for this period. (We wish to thank Dr. J. B. Lyons, professor of medical history, RCSI, and Dr. Eoin O'Brien, Charitable Infirmary, Jervis Street, for advice on the College and other contemporary archives).

7 Coutts J. *A History of the University of Glasgow from its Foundation in 1451 to 1909.* Glasgow: Maclehose, 1909, pp. 541 *et seq.*

8 This was before the Medical School opened at RBAI (in 1835) which took many students who would previously have attended Edinburgh or Glasgow.

9 We are indebted to Mr. Michael S. Moss, Archivist, University of Glasgow, for this and other data from the roll of graduates. The submission of a thesis was apparently optional at this time (Coutts, *op. cit.* p. 544), and Dr. Dow (see note 5 above) has been unable to trace any thesis title registered in Little's name.

10 Little's entries in the *Medical Directory* from 1870 show "L.M. Glasg. 1826." These entries were compiled from responses to annual circulars, but his previous entries do not record this qualification (see also note 30 below).

11 Minute Book, Belfast Medical Society, 1822-28, 2 July 1827.

12 In High Street. 'A list of subscribers to the Belfast Medical Library,' in—*Ibid.*, 1842-52, p. iii; *Annual Medical Report of the Dispensary and Fever Hospital of Belfast,* 1827-28, p. 7.

13 This information was kindly supplied by Dr. Malachy Powell, Department of Health, Dublin, who is custodian of the Apothecaries Hall records. The qualification allowed the holder to sell or charge for medicine without fear of prosecution by apothecaries.

14 *Annual Medical Report of the Dispensary and Fever Hospital of Belfast,* 1827-28, p. 7; 1828-29, p. 5; 1829-30, p. 5; 1830-31, p. 5.

15 Froggatt P. The foundation of the "Inst" medical department and its association with the Belfast Fever Hospital. *Ulster Med J* 1976; **45**: 107-145.

16 Froggatt P. The first medical school in Belfast, 1835-1849. *Medical History* 1978: **22**: 237-266.

17 Little's book of testimonials compiled for his application for the chair at RBAI in 1835, as republished in 1844, is in the possession of Dr. H. A. Warnock (see note 2 above)—*Testimonials in favour of Robert Little, M.D., Consulting Physician to the Belfast Hospital, Physician to the Belfast Lying-in Charity and Dispensary for the Diseases of Females and Children, Etc., on the occasion of his being elected Professor of Midwifery and Diseases of Females and Children in the Royal Belfast College.* Belfast: printed by Hugh Clark and Company, Corn-Market, 1844. It consists of (24) letters of recommendation from colleagues, students, and prominent citizens, a form then usual. It is paginated 1-20 and has one hand-written letter inset—from Henry Cooke, D.D., headed "Belfast, 16th December 1845." The book is referenced below as *Testimonials.*

18 *Annual Medical Report of the Dispensary and Fever Hospital of Belfast,* 1829-30, pp. 3-4.

19 Minutes of the Board of Management of the Dispensary and Fever Hospital of Belfast, 9 May 1830.

20 *Testimonials, op. cit.*, p. 3. Introductory letter from Little to secretary, RBAI. The *Belfast News Letter* during May 1830 makes no reference to the opening of the Charity.

21 *Testimonials, op. cit., passim.*

22 *Ibid.*, pp. 5, 15, 18; letters from respectively McDonnell, McCormac and Andrews.

23 *Ibid.*, p. 12, letter from Samuel Blackwood, "senior medical student." See also pp. 10-11, letter from James Maxwell, "senior pupil, Royal College of Surgeons, Dublin."

24 Little's application was forwarded, correctly, to Lord Melbourne, the Home Secretary, *Ibid.*, p. 3.

25 The intricacies of appointments to the Regius chairs of midwifery, surgery, botany, and chemistry are described in Coutts, *op. cit.*, (ref. no. 7), pp. 526-7. Lee did not last long in office. Having successfully delivered a Latin Essay before the Senate on 30 April and been admitted as professor, he resigned on 2 July possibly because he was not prepared to fulfil his promise, given on 30 April, to sign the Westminster Confession of Faith at the next meeting of the Glasgow Presbytery. William Cumin was appointed to succeed by a Crown Commission of 16 July 1834 and took up office on 10 October (see ref. no. 5). No material relating to Little's application apparently survives in the relevant Home Office papers held by the Scottish Record Office or the Public Record Office, London. (We are indebted to Mrs. Rosemary Barbour, Scottish Record Office, for arranging the searches).

26 There was much parliamentary and public debate at this time concerning the foundation of provincial colleges in Ireland which would include faculties of medicine (Moody TW, Beckett JC. *Queen's, Belfast, 1845-1949. The history of a university.* London: Faber and Faber, 1959; I, pp. liii-lxvii).

27 *An act to enable Her Majesty to endow new colleges for the advancement of learning in Ireland* (8 & 9 Vict., c. 66) received the Royal Assent on 31 July 1845. This established the Queen's Colleges at Belfast, Cork and Galway.

28 There is no reference to Little as a candidate for a post in any of the three Queen's Colleges amongst the Chief Secretary's Office papers for 1845-49; similarly the actual applications and testimonials submitted during the same period (State Paper Office OP 1849/124) include nothing from Little. We are obliged to Miss Anne Neary of the State Paper Office in Dublin for searching these relevant files in Dublin Castle.

29 After his initial address in High Street in 1826-7 (see note 12 above), local directories show him at: 94, Donegall Street (1830 or 1831-), 92, Donegall Street (1834 or 1835-), 9, Donegall Place (1837 or 1838-), and 59, Upper Arthur Street (1838-40)—local directories 1831-2, 1835-6, 1839 and 1840-1 respectively. 94 and 92 Donegall Street were probably the same (renumbered) house.

30 Local directories for Wolverhampton, 1847, 1851. *London and Provincial Medical Directory,* 1848 *et seq.* (hereinafter *Directory*); the edition for 1861 shows him as still in Church Street, in conflict with the local directory. The seeming red herring of his entry in the *Directory* for 1851 ("MA, MD (Giessen) 1824") is discussed in ref. no. 1, Appendix. There is no record of his Wolverhampton activities in the minutes of the local Area Health Authority (earliest minutes held are 1852). We are grateful to Miss Tuck for having a search made of all the Authority's historical files.

31 *The Medical Register,* 1861.

32 *Directory,* 1862. This may have been a sojourn with relatives prefatory to his emigration to Australia. A "Joshua Little" appears in the 1861 *Griffith Valuation* list as living at 27, Church Street, but no relationship is known, neither is Robert's wife's maiden name. A "Mrs. Little" is entered for Hibernia Place in the 1865 local directory, but would he have left his wife behind when on his wanderings? They are thought not to have had any children; certainly none survived them.

33 *Directory* for each of 1863-68 lists him as a "registered non-resident" i.e. domiciled outside the United Kingdom. The roll of graduates of Glasgow University shows him to have been some time at "Scone, N.W. Wales"—this clearly being a misprint for "N.S. Wales."

34 Local directory for 1868. The *Directory* for 1869 shows him accurately as a United Kingdom resident "Provincial" section but entered as "address unknown;" that for 1870 also accurately as at 10, College Street South, Belfast.

35 *List of the Electors of the Borough of Belfast, who voted at the General Election, 1868 . . . showing for whom they voted.* Belfast: Adair, 1869.

36 Little's last entry in *The Medical Register* is for 1872: thereafter he appears not to have answered the Registrar's enquiries or else requested his name to be dropped as having ceased to practice (sect. XIV, Medical Act, 1858). He would by then have been 70. However, he continued to complete the annual circular for the *Directory* for another ten years, until 1882, when he was 80.

37 The *Annual Reports* fail to list him as a subscriber at any time, nor is there any note of his death (on 27 February 1889) in the *Annual Report* for 1888-1889 or in the Minutes of the Medical Staff Committee (for 5 March and 2 April 1889) or the Minutes of the Board of Management for 2, 9, 16 and 23 March 1889.

38 The Minute Book of the Society for 30 April 1862 to 8 January 1885 is unfortunately missing, but in the next Minute Book Little does not appear as in attendance at any meeting nor is his death recorded.

39 Local directory for 1877; *Directory* for 1876. He was still at College Street in *Directory,* 1870; and *Slater's Royal national commercial Directory of Ireland,* 1870. Botanic Road was a terrace of houses numbered as part of Great Victoria Street; it is now incorporated into the west side of Shaftesbury Square.

40 *Directory,* 1882. The entry is simply "Donaghadee, Co. Down." He was still in Great Victoria Street in 1880-81 (*Directory,* 1881; *Slater, op. cit.,* 1881).

41 Local directory for 1884; Register of Voters for 1885.

42 Local directory for 1887. The next local directory was published in 1890 but Little had died on 27 February 1889.

43 The gravestone inscription reads: "Erected by Wm Little, Anno Dom. 1794. Here lieth the body of George Little who departed this life on the 25th of June 1792 aged 21 years. Also his mother Mary Wallace otherwise Little who departed this life 22 of January 1793 aged 57 years. Also here lies the body of James Little late of Inishargy who departed this life 13th April 1822 aged 45 years. Also his wife Jane Little alias Forsyth who departed this life July 23rd 1836 aged 61 years. Also Francis Little, son of William Little, of Killyvolgan, who departed this life 17th July 1862 aged 22 years. Also John Little, son to William Little of Killyvolgan who departed this life 4th July 1878 aged 28 years. Also Ann Little, wife to the said William Little, who died 28th July 1884 aged 77 years. Also here lieth the body of William Little of Killyvolgan who departed this life on the 30th September 1887 aged 90 years. Also Doctor Robert Little who died at Belfast 27th February 1889 aged 87 years."

It has not been possible to enlarge on the cause or circumstances of Little's death, as there is no entry in the records of the General Register Office. A search of the will probate records in the Public Record Office of Northern Ireland for details of the value and dispersal of Little's estate has likewise been fruitless. Nor have we been able to trace an obituary or even a death notice in any medical journal or General Hospital or even RBAI records where he had been a founder medical professor over 50 years before. There is not even an obituary notice in the *Belfast News Letter,* the *Northern Whig,* the *Newtownards Chronicle,* the *Down Recorder,* the Royal College of Physicians and Surgeons (Glasgow), or existing Scottish newspapers. (We are grateful to Miss Jean S. A. Robertson, Glasgow University Library, for these last two items of information).

44 He was a conscientious attender at early faculty meetings—27 of the (first) 30 from 8 October 1835 to 12 November 1837—thereafter less so (Minutes of the Faculty of Medicine, RBAI, 1835-49) (PRONI, SCH 524/3C/4, under dates).

RUBELLA SCREENING PROGRAMME—PRELIMINARY RESULTS IN NORTHERN IRELAND

by

W. M. McCLELLAND, MB, MRCPath and S. McCUSKER, FIMLS

Northern Ireland Blood Transfusion Service
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IT is well known that rubella infection occurring during the first four months in pregnancy is associated with a high incidence of congenital abnormalities in the foetus.[1] In Northern Ireland it is considered that an average of eight handicapped infants are born annually as a result of rubella.[2] In order to prevent this problem, routine immunisation of 11-14 year old girls was introduced in 1971 in Northern Ireland following a DHSS recommendation.[3] However, this programme has not been entirely effective and vaccination uptake in schoolgirls has fallen from 90 per cent during the years 1971-73 to 65 per cent during 1975-77. Furthermore, it has become clear that a substantial proportion of pregnant women who would have qualified for rubella immunisation as schoolgirls are not immune.

A Department of Health and Social Services (DHSS) working party report (1976) recommended that adult women should be screened for rubella antibody so that non-immune women could be identified and with certain safeguards offered immunisation.[4] In 1979 the DHSS (N.I.) urged renewed efforts to increase the uptake of vaccine in all groups. Accordingly a serological screening service was introduced and this was sited at the Northern Ireland Blood Transfusion Service which was already receiving blood samples from all ante-natal patients in the province. It was decided that ante-natal patients should be screened and immunisation offered to those who were found to be non-immune during the post-partum period. As the vaccine is a live virus which could, at least theoretically, have teratogenic effects, it is considered important to ensure that pregnancy is avoided for at least three months following immunisation.

The policy has obvious disadvantages in that protection can never be provided for the pregnancy during which non-immunity is discovered. In addition it was advised that other groups should be screened, e.g. pre-menopausal blood donors, women attending family planning and infertility clinics and certain occupational groups at particular risk of contacting rubella such as nurses and teachers. We wish to report on three aspects of this programme: (1) the incidence of non-immunity among women in the child-bearing age group, (2) certain factors influencing immune status, (3) the success of the programme to date as judged by sero-conversion rates at follow-up.

POPULATION AND METHODS

It was considered useful to divide the population to be screened into three groups: ante-natal patients, blood donors and specific requests. Blood samples are received routinely for other purposes from all ante-natal patients and blood donors and so it was of interest to consider the success of immunisation in these two groups (95 per cent of total) for whom no requests for specific rubella screening had been made.

The levels of rubella antibody are quantitated using the single radial haemolysis (S.R.H.) test. This has been an important development which is not only more reliable than the previously used haemoglutination inhibition test but is also much less time consuming and therefore suitable for mass screening.[5] One slight disadvantage is its failure to detect IgM antibodies and it is therefore of no value in the diagnosis of acute infections. It is widely considered at present that immunisation should be offered to those with antibody levels below 15 iu/ml. Women with antibody levels below this are reported as either negative or low immunity (< 15 iu/ml). In the case of ante-natal patients reports are sent to the ante-natal clinic or general practitioner providing the sample, whereas blood donors are informed personally by means of an explanatory letter.

It was decided to analyse the correlation, if any, between immunity to rubella and recollection of previous infection and recollection of previous immunisation. It was thought that the results might provide some useful information regarding the selection of women for screening, e.g. a positive recollection may influence the patient and possibly their doctor as to the need for immunisation. Accordingly, a questionaire was conducted among 2,718 female blood donors who qualified for a screening test (aged under 45 years). These donors were asked questions from a standard form about their recollection of previous infections or immunisation. The answers were correlated with the immune status of the subjects concerned.

Files are kept on all individuals requiring immunisation so that it is possible to monitor the success of the programme as judged by the proportion who have become immune on follow-up testing, e.g. subsequent pregnancies. The immune status of blood donors is marked on the donor cards and non-immune women are re-tested at subsequent donations.

RESULTS

Approximately 45,000 tests per annum have been performed since April 1979 of which about 80 per cent were ante-natal samples. The incidence of non-immune subjects has varied little during this period having been approximately 9 per cent during 1979 (5 per cent negative and 4 per cent low immunity) and has dropped to 7.5 per cent during 1981. The 160 non-immune subjects among the 2,718 female blood donors were analysed with regard to factors associated with immunity. As many as 37 (20 per cent) gave a positive history of German measles, whereas 29 per cent of immune subjects gave a history of German measles. Questioned about rubella immunisation, 37 of 160 non-immune subjects (23 per cent) had a positive recollection and 36.5 per cent of immune subjects had the same recollection. Similar data are not available for ante-natal patients.

Many of the women tested during the ante-natal period have now had further pregnancies and an analysis of a random sample of 128 of these subjects who were non-immune during a previous pregnancy has shown that only 28 (21 per cent) have acquired adequate immunity in the interval since their previous pregnancy. Follow-up data on 1,355 blood donors found to be non-immune showed that 278 (20.5 per cent) had become immune at the time of subsequent blood donation. It should be noted that the rubella epidemic of 1980 took place during the follow-up period for most of the ante-natal patients and blood donors.

DISCUSSION

Our data show that during 1979 approximately 9 per cent of women became pregnant without adequate protection against rubella. This figure has fallen to 7.5 per cent during 1981. This slight reduction may reflect an improvement in immunisation uptake but the rubella epidemic in 1980 may also have played a part. These figures are better than most others recorded recently from the United Kingdom which vary from 8 to 15 per cent.[6, 7, 8]

Our questionaire of blood donors revealed that a substantial proportion of non-immune subjects gave a history of German measles (23 per cent). This is perhaps not surprising in view of the notorious difficulty in making a clinical diagnosis of German measles. Similarly, 23 per cent of non-immune subjects said they recalled having rubella immunisation. Two factors may explain this discrepancy: (1) an erroneous history which is understandable in that rubella immunisation could well have been confused with B.C.G. vaccination and (2) failure of the vaccine to cause seroconversion or failure of antibody levels to be maintained. The latter seems a less likely cause as various studies have shown seroconversion rates of 95-99 per cent.[8, 9] Furthermore duration of immunity, although still unknown, appears to be at least 10 years in the majority of people.[10] These findings strongly indicate that an oral history from patients of German measles infection or immunisation should be disregarded when deciding about the need for a screening test, and this is in keeping with another study.[7]

So far our follow-up records on ante-natal patients indicate that the proportion of non-immune women being immunised post partum is extremely disappointing. Only 21.9 per cent of 128 women analysed have shown seroconversion on follow-up and as the available rubella vaccines have very high seroconversion rates this figure should approximate to the proportion being immunised post-partum. It may even be an overestimate as some of the seroconversions may have been due to natural infection. These results agree with another study in the same community which analysed the rate of post-partum vaccine uptake, (21.5 per cent) in women reported as non-immune during the ante-natal period.[11] It is obvious that the present method of reporting the laboratory results to the clinic or general practitioner providing the blood sample and explaining the need for immunisation has not been successful. McConnell[11] has investigated methods of improving vaccine uptake among the ante-natal patients in this community and found that one to one education about rubella during the early post partum period by a health visitor increases vaccine uptake from 21.5 per cent to 66 per cent. Such a policy is under consideration at present. The low seroconversion rates (20.5 per cent) which we have found in blood donors who were informed of the need for vaccination in person by means of an explanatory letter would seem to be slightly at odds with McConnell's findings. However, it should be remembered that apart from the different methods of communication used, blood donors differ from ante-natal patients very significantly, particularly with regard to further child-bearing intentions.

As already stated the ante-natal screening programme in isolation will always fail to provide protection for the first pregnancy and the best long-term solution to this problem is to improve vaccine uptake among schoolgirls.

SUMMARY

Since 1979 in Northern Ireland all ante-natal patients and certain other groups of females in the child-bearing age group have been screened for immunity to rubella with a view to offering immunisation to those who are non-immune. During this period the overall incidence of non-immunity has fallen from 9 per cent (1979) to 7.5 per cent (1981). The results of a questionnaire indicate that a substantial proportion of non-immune women give a history of rubella infection or immunisation indicating that such a history should be ignored when deciding about the need for a screening test. Follow-up studies indicate that the rate of post-partum vaccine uptake among women tested during the ante-natal period is very poor (approx. 20 per cent). The implications of these findings are discussed.

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BILATERAL AXILLARY VEIN THROMBOSIS

by

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UPPER limb thrombosis accounts for only one per cent of all deep vein thromboses.[1] This may be because there are fewer valves in the arm veins, along with increased fibrinolytic activity and decreased hydrostatic pressure.[2]

The aetiology is primary and secondary. The primary cause is thought to be mechanical due to anatomical factors in that the axillary vein passes through a triangle composed of scalenus anterior posteriorly, the clavicle and subclavian muscle anteriorly and the first rib inferiorly. Excessive movement of shoulder and upper arm distorts the vein and intimal damage results in subsequent thrombosis. The condition has been described in weight lifters and long distance lorry drivers. Secondary causes are subsequent to fracture dislocations of clavicle, congestive heart failure, malignancy and the introduction of catheters or irritant substances into the arm veins. The condition is usually unilateral but occurs bilaterally in 14 per cent of cases. The common presentations are pain in the axilla and/or upper arm fatigability brought on by activity which had previously caused no discomfort. The presenting signs include oedema of the arm, evidence of venous collaterals and palpation of a venous cord in the axilla.

CASE REPORT

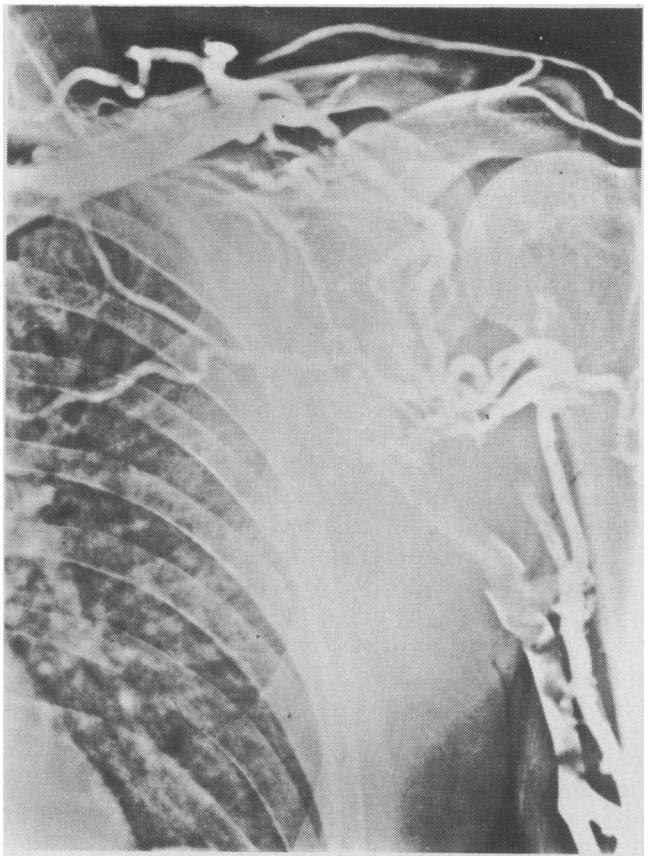
Mr. W. H. aged 52 presented in the surgery complaining of pain and a feeling of fullness in his left armpit. The pain began after a period of exertion and had been present for two days. It was a continuous dull throb aggravated by shoulder movement. The pain radiated into the upper arm.

He was a non smoker and an active athletic man running upwards of sixty miles per week. He also ran several marathons each year. There was no history of recent trauma or chest symptoms and his weight was stable. Two years previously the patient had complained of similar symptoms in his right axilla. At that time the symptoms had been present for two weeks and his lower arm was swollen. A diagnosis of right axillary vein thrombosis had then been made and his symptoms resolved some weeks after commencement of anticoagulation therapy.

On examination, a firm tender cord three inches long and half an inch in diameter was palpable in the left axilla. Multiple tortuous and dilated collaterals were observed in both pectoral areas radiating out over his deltoids. The collaterals were equally prominant on both sides. No oedema was detected in the upper limbs.

He was referred to hospital and venograms (Figure) confirmed the diagnosis. The erythrocytic sedimentation rate, full blood picture, chest radiograph and pancreatic scan were all normal.

The patient was given anticoagulation therapy with heparin for several days and subsequently warfarin. The pain settled immediately, full arm function returned and the axillary venous cord was impalpable one month later. His collateral venous channels have persisted in both pectoral and deltoid areas on both sides.



Venogram showing left axillary arm thrombosis and the collateral circulation.

DISCUSSION

This patient presented with a left axillary vein thrombosis which had been preceded two years previously by a right axillary vein thrombosis. The aetiology was primary. This rare condition could be postulated to have occurred as a result of repeated flexion and extension of the upper limb at the shoulder joint during long distance running. This could have caused damage to the axillary vein's intima with subsequent thrombosis.

The patient refused to abandon marathon running as this had become an integral part of his lifestyle. The long term prognosis is debatable but hopefully since the axillary veins are occluded and a good bilateral collateral circulation has developed further local irritation resulting from his sport should not cause disturbance of circulation which is now dependant on collateral channels.

SUMMARY

A marathon runner initially presented with a right axillary vein thrombosis. Two years later he developed a similar lesion on the left side. No underlying pathology was discovered, and the aetiology was thought to be mechanical subsequent to repeated flexion/extension at the shoulder joint while running. He has developed an adequate collateral venous circulation on both sides and remains symptom free.

ACKNOWLEDGEMENTS

I wish to thank Professor W. G. Irwin and Dr. A. Irwin for their assistance and encouragement in the preparation of this article, Mr. R. Currie for permission to use the venogram and Mrs. Margaret Fisher for typing the manuscript.

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MECKEL'S DIVERTICULUM: A VESICO—DIVERTICULAR FISTULA

Authors:

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THE complications of Meckel's diverticulum have often presented a challenge in both diagnosis and treatment. The symptoms of the diseased diverticulum are not specific to it alone, but rather are characteristic of the type of pathological process occurring in it or in relation to it. We report on a patient who developed a fistula between an inflamed Meckel's diverticulum and the urinary bladder.

CASE REPORT

An otherwise healthy 81 year old female presented with a two week history of intermittent, severe pain in the right iliac fossa associated with dysuria, frequency, nausea and vomiting. The only relevant past history was of appendicectomy 40 years previously.

On examination she was pyrexial (37.5°C) with tenderness in the right iliac fossa but no guarding or rebound tenderness; rectal examination revealed no abnormality. A provisional diagnosis of right ureteric colic seemed substantiated by finding blood in the urine; however, intravenous pyelography showed no stone or other renal pathology. Initial urine examination showed large numbers of pus cells but no growth on culture. Her symptoms failed to settle and a barium enema demonstrated extensive diverticular disease of the descending and sigmoid colon.

Vaginal examination revealed an irregular, firm, right-sided pelvic mass which was not uterine or ovarian and was considered to be of diverticular origin.

Treatment with metronidazole, ampicillin and a high roughage diet resulted in an improvement in the patient's symptoms and she was allowed home. Just prior to her discharge one urine culture had shown a significant growth of coliforms, which responded to co-trimoxazole.

At review six weeks later she again complained of dysuria with foul smelling urine and culture showed a heavy coliform infection. A vesico-colic fistula, possibly caused by pelvic diverticulitis, was suspected and a micturating cystogram showed tethering of the right side of the bladder to an adjacent structure but no leakage of contrast into the bowel; cystoscopy revealed an irregular, indurated area on the right supero-lateral wall of the bladder. At laparotomy an inflamed Meckel's diverticulum was found, adherent to the bladder, with a fistula between the two. The fistula was excised, the bladder repaired and a Meckel's diverticulectomy performed.

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The patient made a satisfactory recovery and has since been asymptomatic. Histology confirmed the operative findings and stated that although the Meckel's diverticulum was inflamed it did not contain heterotopic mucosa.

COMMENT

Although Meckel's diverticulum occurs in only 1-2 per cent of the population it is the most common congenital abnormality of the gastro-intestinal tract!

Disease arising in Meckel's diverticulum commonly presents in infancy and is rarely seen in adult life. Fistula formation between adjacent hollow organs is common with colonic diverticular disease but this complication from an inflamed Meckel's diverticulum does not seem to have been recorded in the English literature.

There was no obvious reason why this patient should develop inflammation in the Meckel's diverticulum at this late stage and such a diagnosis was not entertained as gross pelvic diverticular disease was not present. The diagnosis was only made at laparotomy, with complete cure effected by excision of the diverticulum and closure of the bladder defect.

Although this complication of Meckel's diverticulitis is extremely rare, it's occurrence might support the view that a Meckel's diverticulum discovered incidentally at laparotomy should be excised.

SUMMARY

A previously healthy 81 year old female presented with pyrexia, pain in the right iliac fossa and recurrent urinary tract infections. Laparotomy revealed an inflamed Meckel's diverticulum adherent to the bladder, with a fistula between the two. This is a rare complication of Meckel's diverticulum, apparently not previously described in the English literature.

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ENVOI

by

A PATHOLOGIST

In a full medical life
I have sought to understand
Why people die
Not the simple things
Like bodies crushed
In accidents
Or dying suddenly
With bullets in their brains
Or choked with chemical dust
Or drowned.

Rather to find
Why ordinary people die
Their bodies worn out
And suddenly become incompetent.

So have I travailled
Over the years
And sought the answer
Each death
A problem to be solved
Hoping each problem understood
Would bring some knowledge
To prevent the same thing
Happening again.

With expertise
I carved
Each sterno-clavicular joint
With care
Cracked each and every rib
Exposed the thorax
Fondled every heart

Transected every lung
Sought out the thymus
Examined every lymph-node
Drew down the larynx
Tonsils and glottis
Weighed the thyroid
Found the parathyroids,
With care
I sectioned the abdomen
Carved gently the liver
And sought to find
If bile ducts were intact
Or whether some abstruse condition
Had altered
The content of the tissue.

Each kidney was split in half
Cortex and medulla compared
The volume of the pelvices
The patency of the ureters
All were sought
To further diagnosis.

Adrenals, testes, ovaries,
Pancreas, all contributed
their tiny quota
of evidence.

The brain
Wherein we thought
The final evidence
Would be found
Was specially prepared
But though we sought
We found but little
to explain
final catastrophe.

In Mrs. X.
We seemed to find
An answer
to our quandary.

But Mrs. Y.
Had much more wrong
Yet somehow managed
To survive
Her heart was worn
Her kidneys far from normal
Her liver had no cause
to function
Her brain was small
No longer than her rival
And yet she lived
More joyfully and longer
Until she died
Beneath a bus.

And so I wonder
If our facile explanations
Are quite as valid
As we seem
To make them
And whether
Individuals
Have not some say
In how
Their various diseases
Affect them.

Professor Sir John Henry Biggart, Professor of Pathology (1938-1971)—Dean of the Faculty of Medicine (1944-1971) of Queen's University, Belfast, died 21st May, 1979. This was found among his papers and the Journal welcomes the opportunity to publish it.

BOOK REVIEWS

LES NEIGES D'ANTAN. By RWM Strain. (Pp 59. £2.00). Printed for the author and copyright 1982 and obtainable at £2.00 from the University Bookshop, 91 University Road, Belfast 9.

OF the fifty-three who graduated in 1930 from Queen's University three obtained First Class Honours and there were eleven Second Class Honours. It was a vintage year and the promise was sustained. The author was a distinguished graduate of that year, and was well known to generations of graduates. As a medical historian he contributed delightful and informative articles to this Journal, and was highly regarded as physician and friend by many of our members before he retired to Cornwall. In this book he provides a nostalgic account garnished with anecdotes and a kindly sense of humour of his pre-clinical and clinical teachers in the University and on the staff of the Royal Victoria Hospital, and affords illuminating glimpses of fellow students and resident medical staff. There are many revealing facets, but there is nothing malicious.

Only those who graduated before the Second World War will know all, or nearly all, of those who come alive in these pages: graduates of the war years will again encounter many of those who carried the burden of clinical work in the Royal Victoria Hospital in those days, especially since some continued beyond their retirement age. University teachers, including professors, such as Jimmy Small, Gregg Wilson, Tommy Walmsley, the Milroy brothers and Symmers, and the unique circle around Dickie Hunter and his laboratory, come alive to those who knew them, and even to those to whom they are only a legend. Part time clinical professors, W. W. D. Thomson, Andrew Fullerton, C. G. Lowry, R. J. Johnstone and others provoke many enlivening anecdotes in Part I, Student Days. Consultant staff of the Royal Victoria Hospital are lovingly delineated in Part II, Houseman Days. It is good also to be reminded of other things, of the unpaid labour of the visiting staff, of the precarious tenure and prospects of the assisting visiting staff and of a large hospital administered by a retired medical colonel, a secretary and two clerks. There are many good stories of visiting and resident staff. Those who knew and admired many of these men will be for ever indebted to the author for these recollections, with their many clearly depicted and revealing details. Younger graduates should enjoy learning something of those who contributed so much to the high standard and prestige of our Medical School. All can spend happy hours reading and re-reading this all too short but brilliant and loving account in which the past of our school comes alive better than it might in more lengthy and factual volumes.

JEM

PROBLEMS IN GASTROENTEROLOGY. By Michael Lancaster-Smyth and Kenneth Williams. (Pp 218, Illustrated. £7.95). Lancaster: MTP Press, 1982.

THIS book is one of a series written primarily with the general practitioner in mind. The authors are a consultant physician and consultant surgeon and their co-operation has produced an excellent book full of good sense and written in a clear and lucid style.

The book consists of two sections. The first part deals with gastroenterological problems as they present in a problem orientated manner. It covers such subjects as nausea and vomiting, the acute abdomen, acute diarrhoea, constipation, etc. The analysis of symptoms shows sound clinical judgement and a logical sequence of investigation is proposed. Clear advice about the criteria for hospital referral are included. This section also deals with a number of poorly differentiated problems such as recurrent abdominal pain and discomfort, flatulence, and the irritable bowel syndrome which often receives scant attention in the standard medical text book.

In the second section common disorders are dealt with in further detail. The chapters on peptic ulcer, inflammatory bowel disease and liver disorders are particularly good and provide relevant and elegantly presented summaries of the most recent information in these areas. Although the authors provide reasons for its exclusion a short section on problems after gastric surgery might have been of value as this must present with reasonable frequency to the general practitioner.

The presentation of the material is attractive with short chapters and use of key words in a wide margin. In many of the chapters there is a summary of the main points. These features reinforce the content and made for easy reading. I would recommend this book not only to general practitioners but also to medical students and to the doctor in training.

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JRH

DIABETES EXPLAINED. By Arnold Bloom, Fourth Edition. (Pp 168, Illustrated. £6.95). Lancaster: MTP Press, 1982.

THIS is the fourth edition of a book which has been widely read as an explanatory book for the intelligent layman who happens also to have diabetes. It is also useful as a source of reference for parents of diabetic children, and is on sale in many general bookshops as well as in those with a medical interest. The book deserves its wide audience and is written with tact and consideration appropriate to the intended readers.

It fully deserves to go to a fourth edition. The format is perhaps now becoming a little old-fashioned and perhaps the layout could be improved but these are small points and probably are associated with the relatively low price which is charged for this book.

Like later editions of all successful books, some of the emphasis in the early chapters tends to become misplaced and nowadays much more would be made of the desire for really good control of blood sugar early on in the career of a diabetic person. This would lead to even more detailed discussion of the technique of capillary glucose self-monitoring on which a book of this sort might be expected to be very authoritative. The book will also be in danger of becoming out of date in the near future when the U100 insulin is made available in 1983.

There are very good and sensible discussions of the special problems of diabetes associated with pregnancy and with childhood and I have no hesitation in recommending this book to any of my patients who might wish to know more about the subject. A paperback edition would be cheaper. DRH

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THE PROBLEM OF MEDICAL KNOWLEDGE. EXAMINING THE SOCIAL CONSTRUCTION OF MEDICINE. Edited by P Wright and A Treacher. (Pp 232. £12.00). Edinburgh: University Press. 1982.

THIS is a sociological and not a medical book. It would be well to define and describe "The Problem of Medical Knowledge" before discussing whether social forces have effects on its formation. Certainly religion, morals, ethics and the law have their effect on the practice of medicine but that is not the subject of this book. Here the difficulties of medical knowledge are not perceived nor described. Nor is the book always sure what is medicine. What drug companies do, what some ancillary workers do, is not medicine. Further, the writers of these essays err in thinking medicine is a science. It makes use of science, as it makes use of all kinds of knowledge, so far as they are relevant and useful to it, and so far as it can understand them. Medicine is in truth a management (or an art as it used to be said). It is only a science if by that is meant the pursuit of the truth and accurate working by precise observation and critical logical thinking. But that is not what the essayists mean by science.

Moreover there is the knowledge of the text books and the literature, and, what is more important, there is the knowledge of the individual doctor which he applies, so far as his abilities (and zeal) allow him, day by day at the sick person's side. This latter knowledge is the greater problem. It is a set of working hypotheses and "beliefs." They are mostly developed after leaving medical school, from observation of his patients, from experience in trying to treat them, from contact with fellow practitioners, and from his reading. His set of working beliefs will alter every year, and what he "knows" at 40 is not what he "knew" at 30, and not what he will "know" at 50. And they are not identical with those of his fellows. How useful his set of beliefs at any time depends on his capacity for criticism of himself, and of the multiple views pressed on him by so many agencies.

Does he define his terms? Does he revise them? Does he resist the theories pressed on him by patients? Does he resist their attempted manipulations of his opinions and treatment? Is he credulous or sceptic? Is he economic of hypothesis? Does he ask himself whether his drugs are really doing good or not? Does he admit that he doesn't know the cause of this or that disease, and that it is not likely to be known in his lifetime? Does he resist the comforts of self-deception? Does he resist the expansion of a notion into a belief? Is he clear that what the patient needs is cure or alleviation or helpful advice, and not just "jollying along"? Does he push his methods of investigation so far as they can properly go (and no further)? Few of us come anywhere near these goals but many try and go on trying.

The enemies of this personal development of the doctor are the severity of the intellectual effort; the break-in of credulousness; the tendency to go with the crowd (witness the great bran decade); the break in sympathy with the patient who does not share the doctor's premises ("its wind, doctor—if only I could get it up"); the doctor's, as well as the patient's, need for a placebo. The old practitioner said that success in practice depended on naming it, blaming it, and treating it. Here are pitfalls. It may be that for many it is not worldly success, but the emotional burden of attending sick people, which drives the doctor to "naming it, blaming it, and treating it." And there are the fallacies in thinking—the canary in the hedge syndrome, and the kangaroo syndrome ("when first she saw a kangaroo, she said 'Of course, it isn't true'"). There is the blind trial to prove that the treatment difficult or inconvenient to use is effective, though it obviously is helpful (faults in design are not looked for in these trials very persistently). There is the putting of the blame on the patient—few obese people *can* lose weight effectively by dieting. Wearing masks at work may be next to intolerable.

Help can be had from critical thinking; logic should be taught in the first medical year. Some have help from a linguistic ability which enables them to understand better patients' speech, gesture, expression, bearing and demeanour. Some have an instant apprehension which makes them "lucky", like the generals George the Third approved of. But no one is going to be totally efficient, not even with the help of computerised advice. So prevention is and always will be better than cure.

Here and there in these essays, they seem to be vitiated by ideas which I think are false. The seeming acceptance of psychosomatic theories of non-psychiatric disease, the unwillingness to believe that the extraordinary improvement in personal and public health is based on medical activity, the underestimating of the importance of genetics, and the imputing of power-hunger as a motive to those who achieve special knowledge are examples. There is insufficient recognition of how provisional medical "knowledge" is, and little consideration that "mind" and "psyche" may only be the neuroendocrine activity of the brain.

The book may be useful to sociologists but it will not help doctors in their work. JSL

THE BEECHAM MANUAL FOR FAMILY PRACTICE. Edited by John Fry. (Pp viii + 232. £11.95). Lancaster: MTP Press, 1982.

READING and, with the help of colleagues, 'field-testing' this manual at various times throughout the Christmas season, I was struck with how similar the editors' problem is with that of the housewife. The latter has to recycle traditional dishes in a fresh manner just as the editors of this manual attempt to rearrange material that has appeared elsewhere often by the same publisher and invariably at the same exorbitant cost.

The original manual appeared in New Zealand and later in Australia where it was intended to be a set of instructions for the practice team in their care of patients. In producing "an entirely new Manual" the British editors have intentionally adopted a concise didactic style. It is here, in the actual form, that the first weakness emerges. General practice, of all the major aspects of medicine is ill-suited to such a black and white presentation. The impression given is that the mere absorption of the notably well laid-out material is all that is required. Undergraduate students in well-run departments and hopefully postgraduates, soon learn that additional skills are required for general practice. Reading this book would not acquaint or equip the student with such skills.

The second weakness concerns the content. I wonder whether the editors seriously considered the reactions of a real U.K. Practice Team. Our receptionists were not exactly pleased at their total omission while the nursing health visiting colleagues I approached radically altered some sections. Suffice it to say that team management (if this is not too suspect a concept) involves negotiation, brief formal and informal meetings, close proximity in the same premises and responsibility for the same patients. A really good manual, by which I mean one that would be jointly adhered to, is more likely to follow from such circumstances and it is not the tidy process Dr. Fry and his colleagues would suggest. Could that be why topics such as dementia, alcoholism, mental handicap, cervical cytology and sexually transmitted disease are scarcely mentioned?

In conclusion, this type of work is to be found elsewhere, even by the same authors! It is to be found in a form, written and even video recorded, more relevant to the demands of general practice. It is also to be found at a lower price. Nevertheless, the range of this manual is broad, it is well-indexed and could find a limited place for students spending their first attachment in general practice in their clinical years. It would go some way to ensuring that a given topic is covered.

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SYMPOSIUM ON RENAL DISEASE. Edited by R. Passmore. (Pp 171. £5.00). Edinburgh: Royal College of Physicians, 1982.

THIS collection of papers deals with many aspects of renal disease stressing the importance of laboratory investigations in clinical diagnosis. There are concise accounts of the classification of glomerular lesions and of current ideas on their pathogenesis with emphasis on immunological mechanisms. The section on the renin-angiotensin system brings the reader up-to-date on the role of the juxtaglomerular apparatus and of prostaglandins in blood pressure homeostasis. The chapter on drugs and the kidney is a very useful account of the precautions necessary in prescribing for patients with impaired renal function and discusses the increasing problem of drug induced renal disease.

This little book makes interesting reading and I would recommend it to MRCP and MRCPath candidates as well as those engaged in the investigation and treatment of patients with renal disease.

CMH

A PRIMER OF HUMAN NEUROANATOMY. By Cynthia Reid. Second Edition. (Pp 199, 90 Figs. £5.75). London: Lloyd-Luke (Medical Books) Ltd., 1983.

THIS book has 20 chapters and is illustrated with 90 line drawings. The author gives a clear account of the topography and internal structure of the brain and spinal cord and frequently mentions functional implications. Included are chapters on the limbic system, the reticular formation, the blood supply and cerebrospinal fluid.

Although this second edition has added only five pages its cost is almost double that of the first. Nevertheless, it will prove to be a good investment for medical and dental students and others needing a concise and well-written neuroanatomy text. It is highly recommended.

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THIS collection of papers deals with many aspects of renal disease stressing the importance of laboratory investigations in clinical diagnosis. There are concise accounts of the classification of glomerular lesions and of current ideas on their pathogenesis with emphasis on immunological mechanisms. The section on the renin-angiotensin system brings the reader up-to-date on the role of the juxtaglomerular apparatus and of prostaglandins in blood pressure homeostasis. The chapter on drugs and the kidney is a very useful account of the precautions necessary in prescribing for patients with impaired renal function and discusses the increasing problem of drug induced renal disease.

This little book makes interesting reading and I would recommend it to MRCP and MRCPath candidates as well as those engaged in the investigation and treatment of patients with renal disease.

CMH

A PRIMER OF HUMAN NEUROANATOMY. By Cynthia Reid. Second Edition. (Pp 199, 90 Figs. £5.75). London: Lloyd-Luke (Medical Books) Ltd., 1983.

THIS book has 20 chapters and is illustrated with 90 line drawings. The author gives a clear account of the topography and internal structure of the brain and spinal cord and frequently mentions functional implications. Included are chapters on the limbic system, the reticular formation, the blood supply and cerebrospinal fluid.

Although this second edition has added only five pages its cost is almost double that of the first. Nevertheless, it will prove to be a good investment for medical and dental students and others needing a concise and well-written neuroanatomy text. It is highly recommended.

TJH

THE BEECHAM MANUAL FOR FAMILY PRACTICE. Edited by John Fry. (Pp viii + 232. £11.95). Lancaster: MTP Press, 1982.

READING and, with the help of colleagues, 'field-testing' this manual at various times throughout the Christmas season, I was struck with how similar the editors' problem is with that of the housewife. The latter has to recycle traditional dishes in a fresh manner just as the editors of this manual attempt to rearrange material that has appeared elsewhere often by the same publisher and invariably at the same exorbitant cost.

The original manual appeared in New Zealand and later in Australia where it was intended to be a set of instructions for the practice team in their care of patients. In producing "an entirely new Manual" the British editors have intentionally adopted a concise didactic style. It is here, in the actual form, that the first weakness emerges. General practice, of all the major aspects of medicine is ill-suited to such a black and white presentation. The impression given is that the mere absorption of the notably well laid-out material is all that is required. Undergraduate students in well-run departments and hopefully postgraduates, soon learn that additional skills are required for general practice. Reading this book would not acquaint or equip the student with such skills.

The second weakness concerns the content. I wonder whether the editors seriously considered the reactions of a real U.K. Practice Team. Our receptionists were not exactly pleased at their total omission while the nursing health visiting colleagues I approached radically altered some sections. Suffice it to say that team management (if this is not too suspect a concept) involves negotiation, brief formal and informal meetings, close proximity in the same premises and responsibility for the same patients. A really good manual, by which I mean one that would be jointly adhered to, is more likely to follow from such circumstances and it is not the tidy process Dr. Fry and his colleagues would suggest. Could that be why topics such as dementia, alcoholism, mental handicap, cervical cytology and sexually transmitted disease are scarcely mentioned?

In conclusion, this type of work is to be found elsewhere, even by the same authors! It is to be found in a form, written and even video recorded, more relevant to the demands of general practice. It is also to be found at a lower price. Nevertheless, the range of this manual is broad, it is well-indexed and could find a limited place for students spending their first attachment in general practice in their clinical years. It would go some way to ensuring that a given topic is covered.

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CRITICAL CARE FOR SURGICAL PATIENTS. Edited by John M Beal. (Pp viii + 606, Figs 203. £32.00). London: Baillière Tindall, 1982.

THIS book has been written by 58 authors, all from the North Western University Hospital in Chicago and is an expansion of Beal's previous writings on recovery room care. It is a curious mixture of excellent chapters with indifferent chapters.

In the first section respiratory failure and management is described in a most lucid and readable style. This is followed by a section on circulatory crises in which monitoring is clearly explained and such mysteries as the Swan Ganz catheter are unveiled. Fluid balance is well handled but this is followed by a very weak chapter on the acute abdomen. It is difficult to see why Mittelschmerz, herpes zoster or spider bites are included in this book.

There are apparently irrelevant chapters on gynaecology and endocrine surgery; a one page account of Conn's syndrome seems completely out of place. Does spontaneous subconjunctival haemorrhage really require critical care? There is considerable repetition. Tracheostomy is described in detail in each of two consecutive chapters.

Notwithstanding these criticisms this is a valuable book and will be particularly useful in intensive care departments. It should also be useful to all surgical and anaesthetic trainees.

At £32.00 it is good value as the printing and production is excellent. If a second edition was pruned drastically it would not only be cheaper but would also make better reading.

TLK

PSYCHIATRY IN CRISIS. Edited by Richard CW Hall. (Pp 148. £11.75). Lancaster: MRT Press, 1982.

AIDED by excellent recruitment into the specialty and generous federal funding, U.S. psychiatry expanded rapidly after the Second World War, the peak of this development being in the 1960's. The boom period is now over and North American psychiatry is in trouble.

The inadequate and declining standards of the state mental hospital are now a cause for concern. This has been aggravated over the years by a flood of the most highly trained and skilled psychiatrists into the private sector to meet the demand for expensive and time consuming psychotherapy. This was created by the affluent "worried well" who looked for help with life's problems. In contrast, the bulk of the mentally sick languish in the chronically understaffed state mental hospitals, where conditions are poor. The departure of analytically trained psychiatrists into private practice and away from the medical model has left the way open for other non-medical health workers, e.g. psychologists, social workers, etc. to gain positions of power and influence in the state hospital system. The policy of discharging the chronic mentally ill to non-existing or inappropriate community facilities has caused much personal suffering and aroused public concern. The community mental health centre system is failing because of lack of psychiatric leadership and declining funds. Recruitment into psychiatry is falling. The influence of the popular anti-psychiatry movement is strong and legislation banning E.C.T., the treatment of choice in severe depressive illness, has been passed in at least one state. Even the private domain of psychoanalysis is threatened by the popularity of the fringe therapies of the "human potential" movement, e.g. encounter, transcendental meditation, gestalt, etc.

"Psychiatry in Crisis," the book under review, contains a series of essays discussing critically these issues. There is general agreement about their nature and cause, namely the drift of psychiatry out of main stream medicine. Despite the gloomy tone of most of the essays, all are optimistic that the specialty will weather the present storm and emerge slimmer and more resilient. An essential prescription for recovery is seen as a return to a more medical model. As Kety, a distinguished research worker in biological psychiatry, remarks; "the psychiatrist is best equipped to carry out responsibilities towards the mentally ill on the basis of a broad background in medicine, clinical psychology and the scientific method." However, the need for widening of the medical model is recognised.

Despite the development of the most advanced medical treatment technology in the world, American medicine has still not had a significant impact on the health of the nation. Health is a highly individual matter. It relates directly to the life style of the individual, his values and habits. Medicine is constantly losing the battle of influencing people into habits of life style and at least 50 per cent are not compliant in taking the treatment the doctor prescribes. In many instances, this failure to comply may have serious health consequences.

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Engel, another distinguished American psychiatrist, has made the point that the biomedical model, so long the forefront of medical advance, is no longer appropriate to modern medical practice. He calls for a biopsycho-social model that takes account of how biological, social and psychological systems interact to produce states of health and disease. It is apparent that life changes have profound effects upon the onset and course of disease. He contends that the medical profession must develop a clinical science that elucidates the mechanisms by which social and psychological factors exert influence on biological systems and how such changes exert feedback on the individual patient's behaviour and mental set.

Fortunately, a number of the more serious problems discussed in this monograph are not directly relevant to practice in these islands, having evolved as a consequence of the radically different approach to the organisation and practice of medicine in the U.S.A. Nevertheless, many of the themes are not unfamiliar to those of us who practice on this side of the Atlantic. Hence this short book of essays is well worth reading.

CWF

CARDIOLOGY. By Desmond G Julian. Fourth Edition. (Pp 308, Illustrated. £6.95). London: Baillière Tindall, 1983.

THIS book is one of the series of concise medical textbooks. It successfully presents what clinical medical students, both undergraduate and post-graduate, need to know about cardiology. Avoiding the use of sterile lists, the essentials of clinical cardiology, both diagnostic and therapeutic, are presented in a logical, concise and yet readable fashion. I was delighted at the inclusion of several quotations such as Heberden's on angina pectoris and Stokes' on periodic respiration. References have been kept to a minimum but are almost all to work published since the Third Edition.

In the sections on diagnosis the emphasis is on symptoms and signs, but the important contribution to diagnosis of the ECG, the chest radiograph and the echocardiograph are indicated. Much of the mystery is taken out of these diagnostic aids by the chapters on the electrical activity of the heart and that on radiology and other techniques of investigation. A slight expansion of the short section on echocardiography would have been useful.

One of the major strengths of this admirable book is its balance. Professor Julian avoids the temptation to over-emphasise his own particular interests at the expense of others. When dealing with treatment he emphasises the importance of general measures such as stopping smoking, dietary measures, etc. before discussing drug therapy. One welcomes the chapter on psychological aspects of heart disease though the allocation of only two pages to this subject seems scarcely adequate to do it justice. But any such criticisms are minor, and for learners and teachers of cardiology alike I recommend this book strongly.

MES

YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY 1982. Edited by Kenneth M Brinkhous (Pp 475, Illustrated. £34.00). Chicago and London: Year Book Medical Publishers, 1982.

THIS well fulfils the stated aim of selecting the most valuable articles from the current pathology and related literature, with the aim of providing a volume high in informational content to serve as an educational tool for "keeping up to date." Abstracts of selected papers range widely, and most are accompanied by succinct comments by associated editors and their colleagues. Some, especially those on cellular pathology at the beginning of the book, may prove difficult, but survey important developments such as hybridomas producing monoclonal antibodies.

The first three hundred pages range widely and discuss subjects, some new, but many only fresh studies of older themes. Nearly all of these are of interest to the histopathologist. The remaining hundred and fifty-eight pages, designated clinical pathology, review some aspects of chemical pathology, toxicology, microbiology, diagnostic immunology, blood banking and haematology. Few of these papers are sufficiently basic to merit the attention of the histopathologist, and they are insufficient in number and content to cover adequately the advances in the other disciplines. At least, for British pathologists, the Year Book may soon have to undergo fission, and haematologists, microbiologists and clinical pathologists may demand their own separate volumes.

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HAEMATOLOGY IN TROPICAL AREAS: CLINICS IN HAEMATOLOGY. Vol 10, No 3. (Pp x + 697-1073, Illustrated. £10.00). London: Holt-Saunders, 1981.

CLINICS in Haematology were introduced some 10 years ago to provide in depth reviews of different aspects of the discipline and have become an accepted and highly respected part of haematology literature. To mark the 10th anniversary there has been a break from tradition and rather than dealing with a specialised topic, the present issue is devoted to Haematology in Tropical Areas. That the specialty is different is illustrated by the complexity of interpretation of results. Well people chronically exposed to malarial infection may develop polyclonal gammopathy and ESR's of up to 85 mm in the first hour and the mean haemoglobin value in adult, non-pregnant females varies from 74 g/l in India to 174 g/l in Mexico; this being determined not only by the degree of malnutrition in the community but by the altitude of the area. As would be expected, diseases caused by malnutrition and infectious agents dominate the specialty in these areas and the theme that remedies lie with political action rather than medicine is a recurring one.

There is a sharp contrast between the two commonest causes of anaemia in the tropics, namely that due to dietary deficiency of folic acid or iron and sickle cell anaemia. For nutritional anaemias the remedies are clearly defined, simple and inexpensive, whereas with sickle cell anaemia an enormous world-wide effort has gone into the definition of the defect in biochemical terms with, as yet, little prospect of effective therapy.

The section on sickle cell anaemia, which has become the prototype of molecular disease in man, is particularly of interest. The clinical and essential haematological features of this disease were first described in the U.S.A. in 1919 but it was not until 1945 that it was appreciated that the disease occurred in Africa and the basic pattern of inheritance was defined shortly afterwards. There is now much evidence that individuals heterozygous for sickle cell haemoglobin trait are relatively resistant to *Plasmodium falciparum* infection, because infection with the plasmodium favours sickling, which is detrimental to the parasite. Malaria is a severe threat to homozygous sickle cell patients and malarial infection adds a further cause for haemolysis and anaemia in patients already suffering from these problems. This phenomenon is the most typical example in the human species of a genetic polymorphism balanced by environmental selection.

Another outstanding chapter is that on lymphoma and leukaemia and particularly the account of Burkitt's lymphoma, now clearly defined as a distinct pathological entity of undifferentiated malignant lymphoma of B lymphocyte origin. The disease takes its name from the work of Dr. Denis Burkitt, a British surgeon who, while working in Uganda, identified the clinical syndrome of children who presented with enormous tumours of the jaws and eyes and in whom the illness progressed to disseminated lymphoma. The disease occurs only in well defined areas with definite climatic conditions of temperature and rainfall and perhaps its greatest interest is the overwhelming evidence of the involvement of Epstein-Barr virus in its aetiology. Burkitt's lymphoma is also associated with endemic malaria and it is now thought that malarial infection causes immunosuppression, permitting proliferation of the EB virus-transformed cells. In this country EB virus causes infectious mononucleosis and the different clinical manifestations of the same agent in different populations is a most fascinating chapter in geographic pathology. The studies of this phenomenon have contributed greatly to the understanding of immunity and malignancy.

There are other interesting chapters on red cell enzyme deficiencies, haemorrhagic disorders and the organisation of blood bank and blood transfusion and overall this is a publication in which many different specialists will find much to interest and entertain.

JMB