# THE ULSTER MEDICAL JOURNAL

PUBLISHED BY
THE ULSTER MEDICAL SOCIETY

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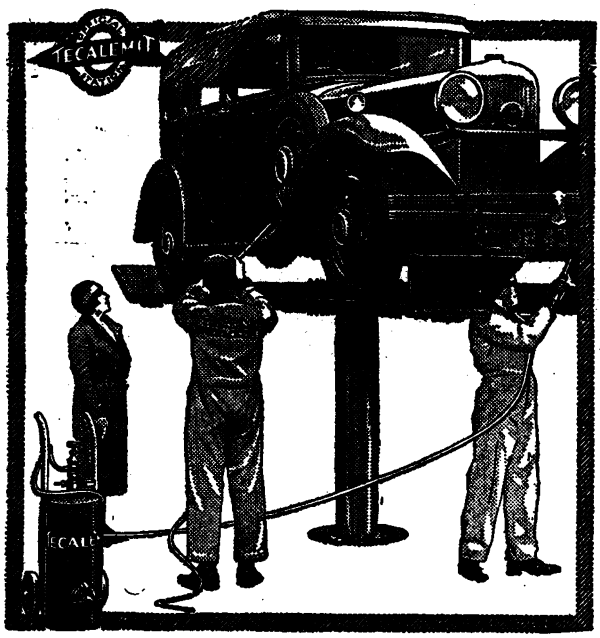


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# CONTENTS






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## NOTICE TO CONTRIBUTORS

1. Manuscript should be typewritten and fully corrected. Contributors will be responsible for the payment of any sum charged for correction of the printer's proof in excess of ten shillings per sheet (16 pages).
2. Illustrations must be in finished form ready for reproduction. They must be properly labelled in type or by hand, with reference pointers if necessary.
3. Line drawings must be sent whenever possible. Illustrations requiring half-tone blocks are costly, and unless printed on special art paper are often unsatisfactory. Authors will be charged for these half-tone blocks at cost price.
4. The legend describing an illustration must be inserted in the appropriate place in the text, and should not be placed on or appended to the drawing.
5. Orders for reprints must be given when the author returns the printer's proof. The cost of these may be obtained from the printers in advance.
6. Editorial communications should be sent direct to the Acting Editor, Dr. Hunter, Department of Anatomy, Queen's University, Belfast.

## ADVERTISEMENTS

First advertising forms go to press thirty days in advance of the date of issue. In forwarding copy, time must be allowed for setting up and submitting proof. All communications for space must be sent direct to the advertising managers : Messrs. George A. Stewart & Co., Publicity House, 100 High Street, Belfast.

## DATES OF PUBLICATION

1st January, 1st April, 1st July, 1st October.

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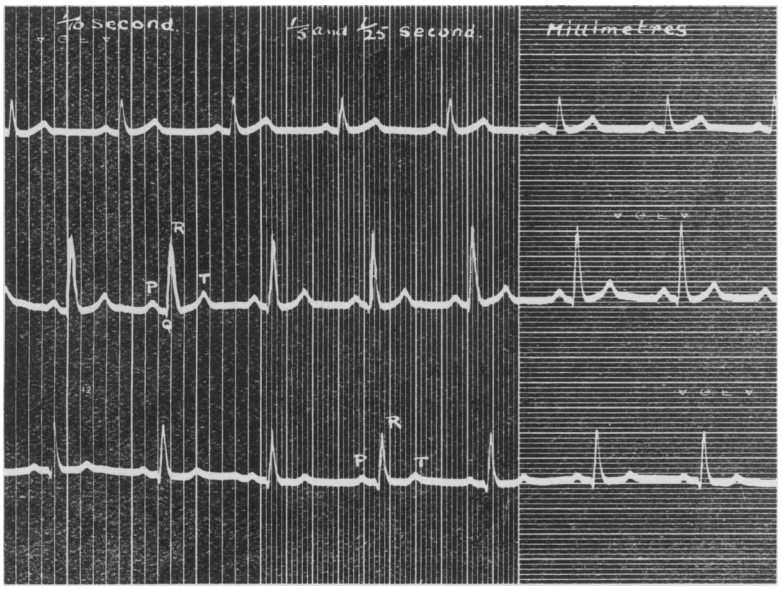


**11/12/30.**—E.C.G. now normal. Complete disappearance of heart block, and changes in T wave and QRS complex. Pulse rate 80.

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# THE ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND

It is to be regretted that greater financial support is not given to this deserving Society, the eighty-ninth annual report of which has just been issued. Last year the sum disbursed in grants amounted to £2,154, an average of £24. 15s. 2d. for the eighty-seven grants awarded. This relatively small sum does not reflect great credit on the generosity of the medical profession in Ireland. Some whole counties give no support to it at all, while others—not always the poorest—do little. The need for support is great. It means a little comfort to our broken brethren, aid for the widows in adversity, education and help for the orphans in order that they may get a decent start in life. In some cases the Society has even to provide the essentials of life. Were these facts realised by the medical profession as a whole, it would receive that generous support to which it is entitled as the only medical charity in Ireland. The honorary treasurers for Northern Ireland are : Co. Antrim—Dr. V. G. L. Fielden; Co. Armagh—Dr. W. J. Dawson, Newtownhamilton, and Dr. Dougan, Portadown; Co. Down—Dr. Nolan, Downpatrick; Co. Londonderry—Dr. J. W. Killen, Londonderry; Co. Tyrone—Dr. R. H. C. Lyons, Dungannon.

and one cannot say how many patients are walking about suffering from the disease in a mild form in whom some of the major catastrophes never occur.

3. Its relationship to cancer is doubtful. Most writers say it is not a precursor, but W. T. Mayo found carcinoma in thirteen out of forty-two cases of diverticulitis.

4. It is hard to treat successfully. The treatment that is theoretically correct is often unsuitable and impracticable when one examines the type of patient—elderly, fat, and with a chronic history. A difficult operation requiring careful dissection may be expected, and this the average case will not stand. So that safe palliative operations are more than often performed.

(RADIOGRAM No. 1.—Opaque enema showing diverticulæ filled.)

(RADIOGRAM No. 2.—Pelvic colon now empty, but diverticulæ still filled.)

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## FORTHCOMING PAPERS

IT is hoped to publish in the July number of the Journal a full report of the special meeting of the Ulster Medical Society at which a discussion on "Tonsil Infections in Relation to General Diseases" took place. The openers were Professor W. W. D. Thomson, Sir Thomas Houston, Mr. Anderson, and Mr. Gibson.

Other papers to be published in this number will include the following :—

"The Clinical Interpretation of Serological Reactions," by Dr. T. B. H. Haslett.

"The First Year's Working of 'Panel' Practice in Northern Ireland," by Dr. James Boyd.

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## REVIEW

ANTE-NATAL CARE. By W. E. T. Haultain and E. Chalmers Fahmy. Edinburgh : E. & S. Livingstone. Second edition, 1931. pp. XI + 121 ; 1 plate. 5s. net.

FOR several reasons this book on ante-natal care should make a wide appeal to the general practitioner. He is the one who can make ante-natal work successful in practice, and thus contribute greatly to the reduction of maternal mortality which is so earnestly desired. The authors have covered the ground fully and yet in a very concise manner. Where a number of methods of treatment are available, they have chosen to describe in detail the procedures they have found of most service in the Edinburgh hospitals to which they are attached, and to mention the alternatives in considerably less detail.

In the opening chapters the diagnosis and hygiene of pregnancy, together with methods of examination of the patient and the general outline of ante-natal care in pregnancy, are considered. Then follow chapters on the diagnosis and treatment of contracted pelvis, and the toxæmias and hæmorrhages of pregnancy. In the section on albuminuria, it is stated that the normal blood area is 5 to 15 mg. per 100 c.c. of blood. In this school the normal range is considered to lie between 20 and 40 mg. per cent., and therefore the values given in this book seem to us rather low.

and duodenum is clearly seen. Some of the barium has made its way up to the bulb, which is still quite irregular in shape, but the main portion has filled up and dilated distal part of the duodenum. Barium can be seen passing down the proximal jejunum, but the flexure can hardly be seen in the reproduction.

The operation resulted in immediate and total relief from the symptoms complained of, and the patient has remained perfectly well up to the present time.

Anomalies of rotation and fixation of the parts of the intestinal canal derived from the mid-gut are by no means uncommon, and are apt to create extra difficulty and sometimes danger in many abdominal operations. In this case fortunately a very simple and easy solution presented itself.


REFERENCES.

ARMSTRONG, G. E., 1910, "Abnormal Position of the Duodenum," *Trans. Amer. Surg. Assoc.*, Vol. XXVIII, p. 299.

STURGIS, M. G., 1915, "Congenital Intestinal Anomalies," *Surg. Gynæcol. and Obst.*, Vol. XXI, p. 447.

LXXV, p. 757.

EGGERS, C., 1922, "Non-rotation of the Large Intestine," *Ann. of Surg.*, Vol.

DOTT, NORMAN M., 1923, "Anomalies of Intestinal Rotation," *Brit. Journ. of Surg.*, Vol. XI, No. 42.


# THE ULSTER MEDICAL SOCIETY LIBRARY

THE activities of the Ulster Medical Society have recently been directed towards the reorganisation of the Society's library. Shelf space and expense are two formidable barriers to any progressive policy, but by the very willing and enthusiastic help of Mr. K. Povey, librarian to the Queen's University, the librarian of the Ulster Medical Society has been able to draw up a plan which is acceptable to the members of the Society.

The University Library has agreed to bind and store, at the end of each year, certain recommended periodicals, which then become the property of the University. This has enabled the Ulster Medical Society to purchase more current literature than formerly, and some fourteen such publications are now available for consultation. Duplication of literature is avoidable by the arrangement. Consultation with and borrowing of books at the University by members of the Society has been arranged, and conversely the Society has undertaken to admit members of the University to the Society's library on the recommendation of the Queen's University librarian.

New books of interest to the general practitioner are to be added to the Society's library from time to time, principally textbooks on diagnosis and treatment by recognised authorities.

A new "Cosy" stove has been installed in the Ulster Medical Society's library, and this should make a great difference to the comfort of members. It is hoped that these new arrangements will result in greater use being made of its facilities by the members than formerly.

# THE ULSTER MEDICAL SOCIETY

THE MEDICAL INSTITUTE,
COLLEGE SQUARE NORTH,
BELFAST.

Dear Sir (or Madam),

It has been felt for some time that the Transactions of the Ulster Medical Society, which have been published at irregular intervals, are not the best means of keeping the Fellows and Members interested in the proceedings of the Society, and that some other form of publication should be used. Very careful consideration was given to this by the Council, and it was decided to issue a quarterly periodical instead, to be known as THE ULSTER MEDICAL JOURNAL.

It has been decided to issue the journal to all Fellows and Members of the Ulster Medical Society free of charge, in place of the Transactions of the Society as issued hitherto.

If you are not a member of the Ulster Medical Society, we would appeal to you to give the question of joining your consideration. The Society has been in existence since 1862, and has always been active in keeping its members interested in the advances in medical science as well as in current professional affairs. The Medical Institute, situated in College Square North, belongs to the Society (through the generosity of Sir William Whitla), and is ideally adapted for meetings, committee meetings, and recreation. There is a library with current medical periodicals, and facilities for reference to medical literature are available in conjunction with the library at the Queen's University. There is also a billiard-room available to members, and lighter periodicals are also provided. An annual dinner is held each year in December, and a golf competition in June. Meetings are held at intervals of a fortnight during the winter months, and papers are contributed by members. Distinguished visitors are occasionally asked to contribute papers on subjects upon which they are specially qualified to speak.

The subscription to the Society is one guinea for Fellows and Members living in the country; two guineas for Fellows living in Belfast; and one guinea for Members living in Belfast who are not qualified more than seven years. The payment of a sum of twenty guineas entitles one to election to Life Membership.

May we, therefore, appeal to you to join the Ulster Medical Society, and so enable us to widen its influence and sphere of usefulness still further? For your convenience a proposal form is attached, which, if filled in and sent to the Honorary Secretary, will ensure your name being put forward for election to membership of the Society.

If you do not wish to become a member of the Society, will you consider entering your name as a subscriber to THE ULSTER MEDICAL JOURNAL? The subscription is five shillings per annum, payable in advance to the Honorary Treasurer, for which a banker's order form is attached for your convenience.

We remain,

Yours faithfully,

S. T. IRWIN, *President.*
J. A. SMYTH, *Hon. Secretary.*
F. M. B. ALLEN, *Hon. Treasurer.*

.....19.....

*To* DR. J. A. SMYTH,
23 UNIVERSITY SQUARE,
BELFAST.

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*Name*.....

*Postal Address*.....

.....

*Year of Qualification*.....

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*Signature*.....

*Address* .....

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THE
ULSTER MEDICAL JOURNAL

PUBLISHED QUARTERLY ON BEHALF OF THE ULSTER MEDICAL SOCIETY

VOL. I 1st APRIL, 1932 No. 2

# EDITORIAL

IN publishing the second number of THE ULSTER MEDICAL JOURNAL, the Editor has to thank the members of the medical profession in Northern Ireland for the kind reception which they accorded to the first. But he would again urge upon them the necessity for their increased co-operation in making it what he and they alike would desire it to be—a Journal worthy of the Medical School which it represents.

The policy of the Journal remains unaltered, and the Editor asks the practitioners of Ulster to come to his support with contributions for publication. Short accounts of interesting cases are always welcome, and so are suggestions for improving the Public Health and Panel Services. The point of view of general practitioners in these two respects is of particular interest, for they operate the Acts, and they alone are familiar with the difficulties to be overcome in order to give a service satisfactory to both public and doctor.

An increased number of Medical Societies within the Province have sent reports for publication. These will be found elsewhere in this number of the Journal. They are of great interest, and the Editor is glad to give them space. He hopes that the secretaries of these Societies will continue to co-operate with him in this way, and thus help to make the Journal a true mirror of medical opinion in Northern Ireland.

It is unfortunate that the Editorial Board should, in this early period of its existence, have lost the services of Professor A. Murray Drennan, who has gone to occupy the Chair of Pathology in the University of Edinburgh. The Society has, however, been fortunate in securing the services of Dr. H. J. Ritchie of Belfast to fill the vacancy thus created on the Board. The Editor is sure that Dr. Ritchie will help materially by his advice to increase the usefulness of the Journal to the practitioner.

At the last meeting of the Editorial Board it was decided to issue a Tuberculosis Number in October. The Editor would, therefore, be glad if anyone with special knowledge of this disease will give his fellow-readers the benefit of his experiences.

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# Diagnosis and Treatment of Ante-Partum Hæmorrhage

*By* C. H. G. MACAFEE, M.B., F.R.C.S.ENG., F.C.O.G.

PROFUSE hæmorrhage occuring prior to, or shortly after, the birth of a child, is always a dangerous, and often a fatal, complication, although with proper diagnosis and treatment the maternal death rate should be very low.

Practically all varieties of ante-partum hæmorrhage, with the exception of those originating from lacerations of the genital tract, are due to a partial separation of the placenta from its attachment to the uterine wall. This accident is an inevitable accompaniment of labour when the placenta is implanted in the region of the internal os—placenta prævia—but also occurs when the placenta occupies its normal situation, i.e., accidental hæmorrhage.

Our knowledge of the pathology, and our experiences of the treatment, of accidental hæmorrhage, have made considerable advance in recent years, as a result of the work of several investigators, notably Professor F. J. Browne of London.

In 1885, Winter first drew attention to the presence of albuminuria in patients suffering from accidental hæmorrhage, and since then we have gradually come to recognise that the hæmorrhage is often merely a symptom, or result of a deep-seated systemic disease, producing effects in other parts of the body.

Many conditions have been stated as being possible causes of accidental hæmorrhage, e.g., syphilis, endometritis, etc., but none of these can be shown to be an important factor in any given series of cases. Albuminuria, however, is found in a large proportion of cases—eighty-four per cent. of obstetric cases in Ley's series, and almost one hundred per cent. in F. J. Browne's series of experimental cases of accidental hæmorrhage.

O'Donel Browne states that while not questioning "the accepted and proved knowledge that nephritis can produce utero-placental changes which can precipitate a woman into the critical condition of accidental hæmorrhage, individual patients show wide variations in the degree of albuminuria, and that these alterations did not appear to bear any relation to the amount of blood lost, but rather to the rapidity and facility with which its products were absorbed."

Clinically it is a well recognised fact that a woman with albuminuria runs three great risks :—

1. Eclampsia.
2. Accidental hæmorrhage.
3. Death of the fœtus in utero.

And in Ley's series of cases of accidental hæmorrhage thirty-four per cent. of them had eclampsia.

Microscopical examination of the uterine muscle reveals a succession of degenerative changes extending to actual necrosis of the muscle bundles. Microscopically in serious cases the muscle fibres are separated by widespread hæmorrhage and areas of fatty degeneration.

In the great majority of cases of accidental hæmorrhage, mechanical causes or

traumatism play no part, and most, in fact nearly all, cases of accidental hæmorrhage are as much a manifestation of toxæmia as eclampsia.

Mechanical causes cannot be altogether ruled out. I have seen an accidental hæmorrhage occur after a breech presentation had been converted into a vertex presentation during an ante-natal examination.

The version was done under anæsthesia, which I think is always a mistake, as with the patient anæsthetised one is liable to use more force than the patient herself would permit if conscious. I now make it a rule that if I cannot turn a breech into a vertex at an ordinary ante-natal examination, I do not attempt it under anæsthesia.

Another mechanical cause which should be borne in mind is the separation of the placenta during the passage of a stomach tube for induction of labour.

## ACCIDENTAL HÆMORRHAGE.

There are three main types of accidental hæmorrhage :—

1. Concealed accidental hæmorrhage.
2. External.
3. Combined internal and external.

Cases of concealed hæmorrhage are amongst the most formidable conditions with which the obstetrician has to deal. The worst cases of toxæmic hæmorrhage are concealed cases owing to the co-existing, or rather causal, necrosis and paralysis of the uterine wall. The blood does not escape, because the uterus, having no contractile power, passively dilates to accommodate it. If the uterine muscle were capable of contracting, we should expect the blood to be forced down from the placental site beneath the membranes to the os, where it would escape, and this is precisely what does happen if, and when, the uterine muscle recovers sufficiently to exert its contracting power.

The most characteristic symptom is the sudden onset of very severe pain in the abdomen. The shock produced by the pain is obvious from the pallor, weak and rapid pulse, subnormal temperature, and clammy skin. There is considerable anæmia due to loss of a large quantity of blood into the uterine cavity. On examination of the abdomen the uterus is felt as a hard, tense, and tender mass, quite unlike the normal uterus at full time, and may be larger than might be expected from the duration of the pregnancy. No fœtal parts can be recognised, or fœtal heart heard. There is usually great tenderness of the uterus. Absence of tenderness in the flanks or epigastrium helps to distinguish the condition from sudden general peritonitis due to perforative lesions. The shock and blanching may be almost, if not quite, as great, but the maximum tenderness and rigidity are found away from the uterus, i.e., in flanks, or epigastrium in perforative lesions.

Per vaginam the os is found closed as a rule, but if open the membranes can be felt to be tense. The urine contains albumen, and there may be much œdema.

## TREATMENT OF CONCEALED ACCIDENTAL HÆMORRHAGE.

It is important to remember that the severe symptoms which are observed on first seeing the patient, due to the initial shock caused by the first large intra-

uterine hæmorrhage, are temporary, and tend to show spontaneous recovery, i.e., if the hæmorrhage ceases and no manipulative interference is attempted at this stage.

The essential requirements during the period of shock are rest, warmth, and morphia.

As the shock passes off, the patient's general condition will improve. Real improvement from the prognostic standpoint will be manifested by the return of uterine contractions, which in their turn will cause some external hæmorrhage.

The recovery of the uterus is also a critical point in the prognosis, because, apart from its indication of the general recovery, it means that the danger of further bleeding is considerably diminished. When, therefore, contractions appear it is safe to apply local treatment, both to assist the dilatation and still further to lessen the risk of another attack of bleeding. The local treatment consists of either rupturing the membranes or plugging the vagina, or both : I will refer more fully to this later.

The gravest cases are those in which the initial hæmorrhage or the uterine necrosis have been so great as to produce a permanent condition of shock, to which neither patient nor uterus shows any signs of reacting. Observation of the general appearance, pulse rate, and size of the uterus, reveals the existence of continued bleeding into the uterus. In spite of the great risk of abdominal operations under these circumstances, it is the only hope.

Cæsarean section must be done as quickly as possible. The uterus should not be removed unless absolutely necessary, but if it is very disorganised, as shown by sub-peritoneal hæmorrhages and marked discolouration, blood is saved by doing a hysterectomy without opening the uterus. Blood transfusion or gum saline intravenously should be given during the operation.

## COMBINED EXTERNAL AND INTERNAL ACCIDENTAL HÆMORRHAGE.

We shall now consider the next and, fortunately, more common type of hæmorrhage : combined external and internal.

In the diagnosis of a case of ante-partum hæmorrhage, the first thing is to decide where the placenta is situated. There are, of course, a small number of cases where the hæmorrhage is due to some cervical growth, e.g., mucous polypus, or carcinoma, but in the large majority of cases the bleeding is due either to a placenta prævia, or to the separation of the normally situated placenta, i.e., accidental hæmorrhage.

Difficulty arises in distinguishing between those cases of incomplete placenta prævia, where the placenta is just out of reach of the examining finger, and an accidental hæmorrhage, but the importance of differentiating between these is not great, as with few exceptions the treatment in both cases is the same.

In diagnosis the first point is the history, which is very suggestive. In placenta prævia, the patient is usually going about in perfect health, and while at her daily work, or even in bed asleep, she suddenly has a painless and apparently causeless

hæmorrhage, which at first may be slight, but is certain to recur, and perhaps more severely.

On the other hand, the patient who has an accidental hæmorrhage has usually not been well for some time before, has manifested toxæmic symptoms, e.g., œdema, scanty urine, albuminuria, etc., and the onset of her hæmorrhage is nearly always associated with some pain, however slight.

On abdominal examination in an accidental hæmorrhage, the presenting part is usually engaged in the brim of the pelvis.

It is a fairly good rule that if the head is fixed in the brim of the pelvis, the case is not one of placenta prævia, as the presence of the placenta in the lower uterine segment prevents the presenting part from fixing, and thereby encourages abnormal lies.

On vaginal examination, the presence of blood-clot may confuse, but after removal of this the presenting part can usually be felt through all the fornices, without any placenta intervening; or in a case of placenta prævia, the placenta can be felt filling some or all of the fornices.

If the cervix is dilated sufficiently to permit the introduction of the finger into the lower uterine segment, then this can be explored and the presence of the placenta determined.

In those cases of incomplete placenta prævia where the placenta is just out of reach, its presence may be strongly suspected on feeling the characteristic thickening of the membranes which occurs as the edge of the placenta is approached.

Exploration of the lower uterine segment in a case of accidental hæmorrhage does not as a rule cause any sudden increase in the bleeding, whereas in placenta prævia this almost invariably occurs. Therefore, before attempting this examination, the obstetrician should have everything ready to carry out the necessary treatment, as if hæmorrhage is provoked it may be very severe.

There are two other points which help to differentiate between the two conditions. First of all, the presence of albumen in the urine. This is nearly always present in cases of accidental hæmorrhage in human beings, and is present in one hundred per cent. of cases in experimental accidental hæmorrhage.

Secondly, the uterus which contains a retroplacental clot is usually tender on palpation. Even when the hæmatoma is small, a localised area of tenderness in the uterus is usually present in the upper uterine segment.

## TREATMENT OF COMBINED EXTERNAL AND INTERNAL HÆMORRHAGE.

A discussion of the therapeutic measures available in dealing with the problem of ante-partum hæmorrhage involves the consideration of certain points, on which medical opinion is divided. In the first place: Is it justifiable for a practitioner to accept the risks and responsibilities of the cases surrounded by the facilities afforded in the patient's own home? The answer to this question lies largely with the matter of diagnosis.

Undoubtedly a number of cases occur where slight detachment of the normally

situated placenta leads to temporary and unimportant ante-partum hæmorrhage, which tends to spontaneous cure.

If the hæmorrhage is slight, and the placenta normally situated, the case may be treated in her own home without undue risk.

Placenta prævia, however, is a different proposition, and in the treatment of all its varieties, it is advisable to enlist, when possible, all the advantages of a hospital or properly-equipped nursing-home.

This complication even under ideal circumstances is still attended with a maternal mortality of three to ten per cent.

In looking over the reports of British lying-in hosptials, one cannot fail to be impressed by the frequency with which it is recorded that the patient was only admitted at a comparatively late period in the disease.

"Hæmorrhage has been in progress for several days," or "In a moribund condition," are remarks only too commonly found in these reports, showing that it has only been considered incumbent to call in institutional aid when attempts at domiciliary treatment failed, or in some cases had not been undertaken at all, the practitioner being lulled by the hope that the hæmorrhage would not recur, until a catastrophic flooding put the patient into imminent peril of her life.

The appalling fœtal mortality which is associated with the methods commonly employed to-day in the treatment of placenta prævia, naturally prompts the query whether the accepted standards of procedure are the best possible. It is assumed that no method of treatment must be countenanced which would raise the maternal risk, even with the possibility of reducing the fœtal mortality.

The question should be considered as to whether, without increasing the maternal danger, it is possible to lower the number of stillbirths. The fœtal mortality of placenta prævia is variously estimated at thirty-five to sixty per cent. When to this figure is added the associated maternal mortality of three to four per cent., the gravity of the complication will be appreciated.

In any attempt to improve this state of things—and this also applies to accidental hæmorrhage—the first indication is to recognise the complication at the earliest possible moment, and the second is not to temporise, but to place the patient in such surroundings that any surgical procedure can be attempted without adding to the risks inherent to the condition. The early treatment of placenta prævia is just as important as that of acute appendicitis.

In discussing the treatment suitable for a particular case, it is important to recognise that accidental hæmorrhage varies within wide limits as to its severity and risks, both fœtal and maternal.

There are some mild cases that with rest in bed, and morphia or bromides, tend to cease spontaneously, and the pregnancy continues to full time. These cases should be treated in the same way as threatened abortion, bearing in mind the underlying toxæmic condition; but once a patient has had a hæmorrhage, she is always in danger of having a recurrence, which may be more severe than the first. Once a severe hæmorrhage has occurred, active treatment is imperative.

The principle underlying the treatment of moderately severe cases is based on

the fact that if the uterus can be made to contract and retract, the torn utero placenta blood-vessels will be closed, and the bleeding stopped. In moderate degrees of external and combined accidental hæmorrhage the uterine muscle is not seriously affected, and the desired contraction may be obtained in one of two ways :—

1. Rupturing the membranes.
2. Plugging the vagina.

1. RUPTURE OF THE MEMBRANES.—This is only available in slight cases of bleeding, where the uterine contractions are occurring and the cervix is partly dilated. It is unsuitable where the bleeding is at all severe, as labour may not set in for several hours, and then may be slow. The object of rupturing the membranes is to stimulate the uterine contractions, and sometimes it fails to do so.

After rupture of the membranes, a tight abdominal binder should be applied, and about ½ c.c. pituitrin given. If this does not control the bleeding then one must plug the vagina.

2. PLUGGING THE VAGINA.—This method is adopted in those cases where the following conditions are present :—

(*a*) Where the hæmorrhage is at all severe.
(*b*) Where the patient is not in labour, or only very early in labour.
(*c*) Where the os is not sufficiently dilated to permit of the delivery of the child.

The operation is performed as follows :—After catheterising the patient, who is placed in the dorsal position,* and well anæsthetised, the left hand is passed into the vagina so that the fingers reach up to the posterior fornix and the palm of the hand faces towards the rectum. Pledgets of wool which have been well boiled are then taken and squeezed out of one per cent. lysol. One of these is pushed into the posterior fornix. Another is pushed into one lateral fornix, and a third into the other lateral fornix, and a fourth into the anterior fornix. If there is any space between these pledgets, push more in one by one, until the cervix is firmly and securely ringed by pledgets. This ring round the cervix is the foundation of the vaginal plug. If it is not firm the plug is useless. Fill the vagina from above downwards with more squeezed pledgets, putting them in as tightly as possible. Put a pad over the vagina and keep the plug in position by a firm bandage. Then put a firm abdominal binder on, which is pinned from above down. The plug is left in for about six hours, and by then the hæmorrhage should be controlled, and in the majority of cases labour will have started.

After the insertion of a vaginal tampon, the patient should be given a ¼ gr. of morphia, as the presence of the plug causes considerable shock.

DISADVANTAGES OF PLUGGING.

(*a*) Sepsis if not carefully inserted.
(*b*) Pain.
(*c*) The insertion of a plug often causes severe shock.

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* Tweedy, who originally described this method, put the patient in the left lateral position.

At the end of six hours, or earlier if there is much shock, the plug is removed and a hot vaginal douche is given. By this time it is found that the patient is in labour, and that the os is considerably dilated. Tweedy thought that the plug acted by compressing the uterine arteries, but this is hardly possible : it probably acts by stimulating the uterus to contract, and raising the intra-uterine pressure.

It is not wise to leave a case of accidental hæmorrhage for some hours after delivery, as she may have a post-partum hæmorrhage or may have syncopal attacks as a result of the hæmorrhage which occurred before delivery.

In deciding the treatment for a case of placenta prævia, the following points must be considered :—

(*a*) The variety of placenta prævia.
(*b*) The period of gestation.
(*c*) The severity of the hæmorrhage.
(*d*) The amount of dilatation of the os.
(*e*) The parity of the patient.

One must remember that the mother's life is the first consideration, and that she is not out of danger until the uterus is emptied. In other words, temporising is dangerous, and should only be considered if the patient is very anxious that the child should be alive, if the hæmorrhage has been slight, and the patient is under supervision in an institution.

Owing to the absence of contraction and retraction in the lower uterine segment, it follows that in order to control the hæmorrhage, only direct pressure on the bleeding vessels will be successful. This may be exerted from inside the uterus, or from the vagina.

Pressure from inside the uterus may be exerted in two ways :—

1. By the presenting part : either by rupture of the membranes or by version.
2. By a hydrostatic dilator.

(*a*) *Rupture of the Membranes.*—Simple rupture of the membranes stimulates the uterus to contract, and presses the presenting part on to the separated placenta, thereby occluding the torn utero placental vessels. The rupture in the membranes must be a large one, as otherwise the placenta will be dragged on and further separation produced.

This method can be rendered more effective if at the same time a Willett's forcep is applied to the child's scalp, and a weight of one to two pounds fixed to the handle and slung over the end of the bed. The injury to the child's scalp is practically negligible.

This method of treatment is most useful for those cases of placenta prævia where the placenta just encroaches on the lower uterine segment, and is perhaps just out of reach of the examining finger. I do not wish to minimise the risk attached to this type of case, as it can cause serious or even fatal hæmorrhage if treatment is delayed; but in the past they have probably been overtreated, too much manipulative interference, or even cæsarean section, being carried out for a case which will progress perfectly well is nothing more is done than simple rupture of the membranes.

The great advantage of this method is that the prognosis for the child is so much better than with version. Labour may be terminated with forceps when the os is fully dilated, if there is any tendency to further bleeding, but if possible leave the expulsion of the child to nature.

(*b*) *Version.*—This is probably the favourite method of treating placenta prævia, but is a method that is not without risk. The great objections to the method are :—

1. Fœtal mortality.
2. Sepsis.
3. Rupture of the uterus.

Version is the best method of treatment in those cases of placenta prævia where the placenta just encroaches on the internal os, or is partially over it.

The reason for this is that these cases nearly always first cause symptoms at a stage when the child is only just viable, and often the first symptom is a severe hæmorrhage which can only be controlled by the pressure exerted by the half breech.

The technique of version is known to all, but there are a few points which I think are worth mentioning.

When the child presents as a breech, the only thing necessary is to pass two fingers through the cervix, catch a foot and withdraw it. If the cervix is not sufficiently dilated to permit the passage of the two fingers, and the foot, then a valsellum can be passed under the guidance of the finger, and the outer side of the foot caught and withdrawn.

Where the child presents as a vertex, some authorities recommend that the presentation should be changed into a breech by external version first, and then the foot brought through the cervix.

The objection to this is that in a certain number of cases the legs are extended, and by doing an external version first one has only made the withdrawal of a foot more difficult than before, as they are now lying near the fundus, instead of quite close to the internal os.

As one has to introduce the hand into the uterus, it is better to complete the whole manœuvre at this time.

Once the version is done and the foot brought into the vagina, the danger of any further bleeding is past, and the woman only runs one risk at the moment, namely, that the attendant should make any attempt at immediate delivery. Always remember Herman's rule : "Early version, slow extraction."

The chief mortality from placenta prævia in this country arises from the shock of quick delivery, following a blanching hæmorrhage. If, therefore, after arrest of the hæmorrhage by version or other suitable means, sufficient interval of time elapses before delivery, during which recovery from the anæmia can to some degree take place, the outlook will greatly improve.

If, on the other hand, severe manipulations, such as manual dilatation of the cervix, followed by internal version and immediate extraction, are carried out on a woman exsanguinited by a severe hæmorrhage, the worst possible treatment is being adopted, and a fatal issue is almost certain.

2. *Hydrostatic Dilators.*—Hydrostatic dilators, e.g., Champetier de Rebes bag, outside a hospital, are of very little practical use, as the practitioner very rarely requires one, and, owing to their perishable nature, when the occasion arises for their use they may be leaking.

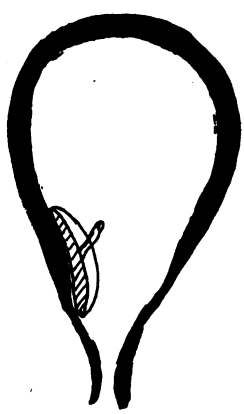
## CÆSAREAN SECTION.

In the treatment of placenta prævia, Cæsarean section has a very small, but well defined place. The type of case most suitable for this method is the primigravida, with a central placenta prævia, who has lost a small or moderate amount of blood at or near full time, and with the fœtal heart audible. Here we have a woman with a live and mature baby, who may expect to have a fairly prolonged stage of dilatation, during which she runs the risk of a very severe hæmorrhage.

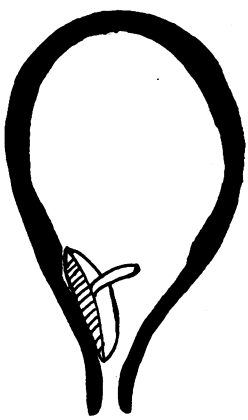
It is a remarkeable fact that a central placenta prævia very often does not manifest itself until just at full term; the majority of cases in my experience have been in primigravida, and usually the cervix is undilated.

Unsuitable cases are those who have had a severe hæmorrhage, as this usually has affected both mother and child, and Cæsarean section has no place in the treatment of the blanched patient.

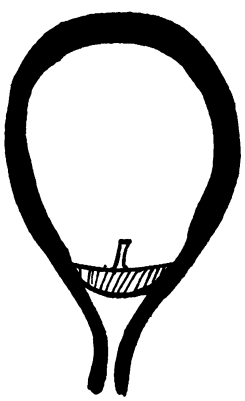
It is not the amount of blood that is already lost which is the indication for operating, but the amount which may be expected to be lost if vaginal methods of delivery are used.



1
Rupture Membranes.



2
Perform Version.



3
Perform Cæsarean Section.

Generally speaking, the treatment of placenta prævia can be summarised in the above three figures.

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# PRESENTATION OF PORTRAIT TO PROFESSOR THOMAS SINCLAIR, C.B., M.D., F.R.C.S., M.P.

VISCOUNT BANGOR presided at a meeting of more than usual interest, in Queen's University, Belfast, on Tuesday, 16th February, 1932. At this meeting, Professor Thomas Sinclair was presented by his friends, past patients, and past students with his portrait in oils. The work is from the brush of Mr. George Harcourt, R.A., and it is a speaking likeness. Many tributes were paid to the work of Professor Sinclair by those who took part in the presentation, but none of these was more sincere than that of Sir Thomas Houston, when he turned to him and said: "I know that I am voicing the views of your fellow-students and your colleagues when I say that, during the thirty-seven years in which you occupied the Chair of Surgery here, you did a great work for the Belfast Medical School. We are proud of the high reputation that the surgery of this Province occupies, and we very gratefully acknowledge that the great advance which surgery has made here during the last forty years was stimulated and initiated by your teaching. And, indeed, we have reason to look on you as the founder of modern surgery in Ulster."

The presentation was made by the Recorder of Belfast, and Professor Sinclair, on receiving the portrait, asked the Vice-Chancellor to accept it on behalf of the University authorities and to accord it a place on the walls of the Great Hall.

The hanging of this portrait in the Great Hall of Queen's University will give great satisfaction to the many generations of students who have passed through Professor Sinclair's classes. No more representative face could hang from those walls than his, whose whole life has been bound up with the fortunes of Queen's. First he came as a student, then remained as Professor of Surgery, and lastly he was elected University Registrar, Pro-Chancellor, and representative of Queen's in the Imperial Parliament.

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## BREVITIES

Dr. J. S. Young has now taken over duty as Professor of Pathology, Queen's University, Belfast, in succession to Professor A. Murray Drennan, who has gone to occupy the Chair of Pathology in the University of Edinburgh. We hope to publish at an early date a paper by Professor Young on the present position of the experimental study of cancer.

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The strength of the Medical Faculty of Queen's University, Belfast, has been further increased by the creation of a special lectureship on Diseases of Infants and Children. Dr. F. M. B. Allen, M.R.C.P. (Lond.), has been appointed to the position.

# Case of Heart Block Following Coronary Thrombosis

*By* S. B. Boyd Campbell, M.D., F.R.C.P.Ed.
from the Royal Victoria Hospital, Belfast

Modern graphic methods, more especially the portable electrocardiograph, have brought into prominence the comparative frequency of coronary thrombosis. The majority of cases have occurred in people over fifty, many of them having had a previous history of some cardiovascular change, especially a change associated with high blood-pressure. This age incidence is shown in a series of 145 cases reported by Levine and Brown (1). Of these cases 111 were males and 34 females, and only three cases occurred between the ages of 30 and 39, whereas ninety-nine occurred between the ages of 50 and 69.

Many types of irregularity are described in cases of coronary thrombosis. Some of them, such as extrasystoles, fibrillation, and delay in the P-R interval, are relatively common. Cases of heart block are less frequent, though partial heart block is more often found than complete.

In the literature on "Coronary Thrombosis" we find Levine and Brown describing nine cases of partial heart block and two cases of complete block in their series of 145 cases. Parkinson and Bedford (2) describe one case of complete block and one of partial in a series of 100 cases. Gallavardin (3) reports two cases of complete heart block. Wearn (4) had two cases in a series of nineteen of cardiac infarction. Shirley Smith (5) describes a case where coronary thrombosis supervened in a case of complete heart block.

Two cases in which there was no previous history of an cardiovascular lesion are described by Frothingham (6) and by Elliott (7). The former was a case of a man aged 45 with no previous history of vascular trouble, who, while being driven in a taxi on a very hot day (99°F), had a feeling of nausea with oppression in the epigastric region and lower portion of sternum, with other symptoms characteristic of coronary thrombosis. The electrocardiogram on the first day showed complete dissociation between the auricles and ventricles. Three days later it showed the P-R interval prolonged, S wave prominent lead 3, and T wave inverted leads 2 and 3. The following day complete heart block returned. Five months later physical examination was completely negative.

Elliott's case (7) was of a man aged 46 who, during the course of an influenzal pneumonia, developed coronary thrombosis, pericarditis, and heart block. He states that arteritis is more commonly found in influenza than in any other acute infection, and quotes from the literature substantiating this statement.

The following case is of interest, as it illustrates the association of heart block with coronary thrombosis occurring in a man aged 34, with no previous history of cardiovascular trouble but a history of a mild feverish attack resembling influenza.

The patient, male, aged 34, a labourer and married, was admitted to hospital on 8th November, 1930. There was no history of previous illnesses except measles as a child. His father died of cardiac trouble, aged 64; otherwise family history

was good. Patient was a keen cyclist, and used to cycle over sixty or seventy miles each week-end. Two days prior to admission he had an attack which he put down to mild influenza. He complained of pains in his legs, dizziness, and feverishness.

On the morning of the 8th he was suddenly seized with severe epigastric pain radiating to the præcordium and associated with vomiting. He had slight dyspnœa, but no definite smothering sensation. On admission he had a anxious look, slight cyanosis, tongue furred, and temperature 100, pulse 33. His heart was slightly enlarged, and pulsation was visible third left interspace. There was a loud first sound mitral area with a systolic murmur conducted towards the axilla. There were faint auricular beats audible during the long ventricular diastole. Pulse was regular, volume fair, arterial wall not sclerotic, blood pressure 120/40. There was no pulsation in the epigastrium. Liver enlarged and tender, spleen not palpable. Urine had a specific gravity of 1020, with a trace of albumen. X-ray of heart on the 23rd showed marked enlargement, especially auricular and right ventricular. Wassermann reaction was negative. On 19th December he complained of pain in the apical region, and on auscultation a pericardial rub was heard. This rub occurred at intervals for four weeks.

He was discharged after ninety days in hospital, feeling fit, and apart from a faint systolic murmur there was no abnormality detected. His blood-pressure did not show much variation during his stay in hospital, being 120/40 on admission, and 118/40 on discharge. His pulse rate increased from 33 to 72 in the first month, and later was slightly more rapid.

*Treatment.*—For the first month patient was kept absolutely at rest in bed, and was not allowed to move without assistance. He was given digitalis, m.x., q.q.h., with sod. cit., grs. xv for the first sixteen days, when he began to show early signs of digitalis intolerance. After this he was put on a strychnine tonic. The first few nights he was given morphia, gr. 1/6 hypodermically, and after this did not require any sedative. On discharge he was advised to take things easy and not to resume work for some months.

He reported on 12th October, 1931, and stated that he felt well, and had been doing light work without any feeling of discomfort. On examination, his blood-pressure was found to be 140/60. He had tachycardia, which was probably due to nervousness. A faint systolic murmur was still present, and his electrocardiogram was normal, except for inversion of the T wave in lead 3.

Electrocardiograms taken at intervals show the gradual but steady change back to normal.

*Conclusions:—*

1. The ramus septi fibrosi (8), which generally arises from the posterior circumflex artery, appears to have been the artery involved. This vessel supplies the bundle of His. The rapid improvement which took place is probably accounted for by the fact that such a relatively small artery was involved, the main musculature of the heart being uninvolved.

2. The first electrocardiogram was taken two days after the initial cardiac symptoms, and showed a two to one heart block. During these two days the pulse

rate had increased from 33 to 50, so that one can conclude that the block was more severe on the first day.

3. The mild infective condition, probably influenzal in type, appears to have been the cause of the thrombosis.

4. Both clinical and cariographic findings on discharge pointed to his having made a complete recovery.

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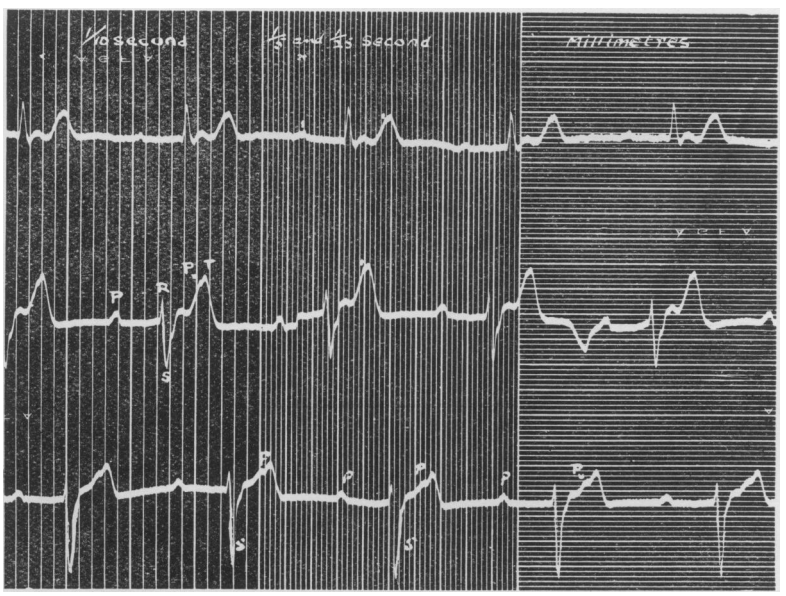
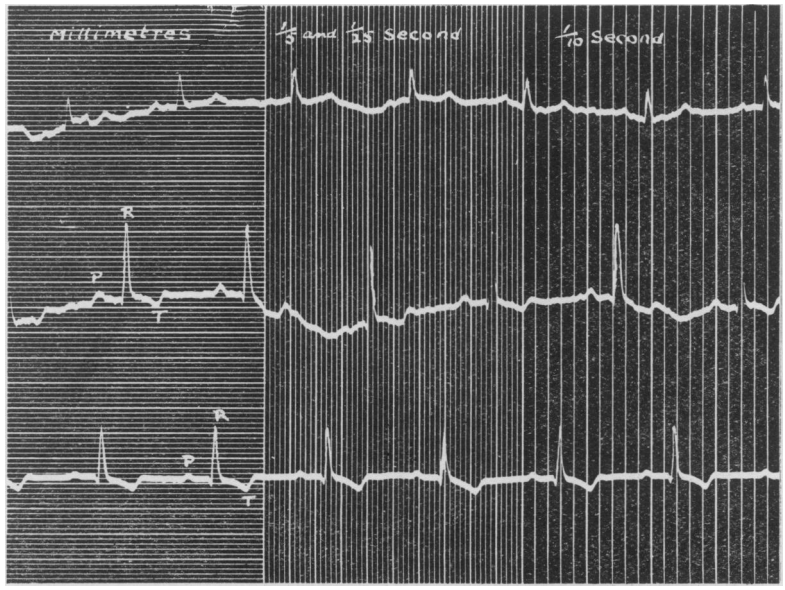
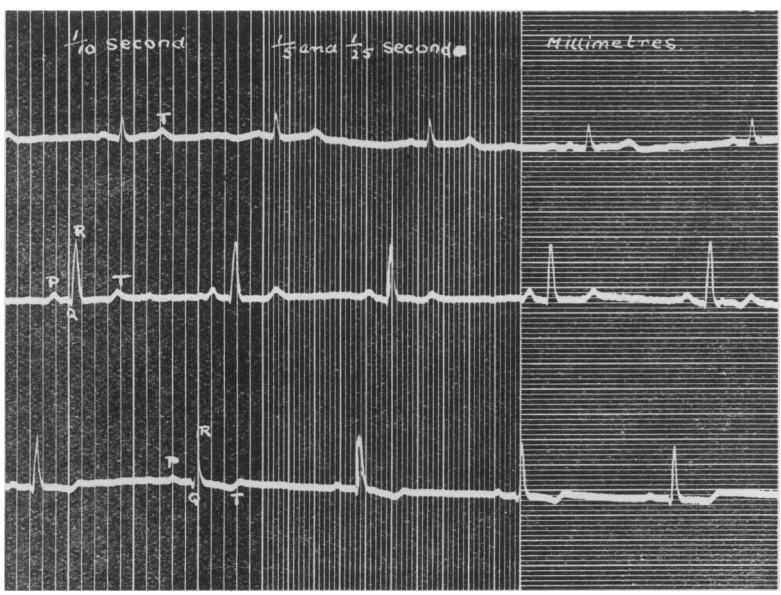


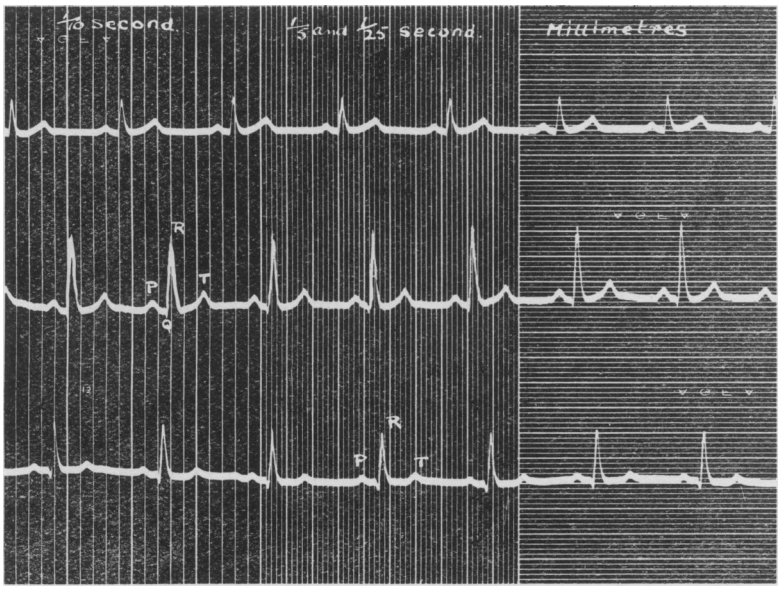

**10/11/30.**—Two to one heart block. Long interval between P and R waves. P wave also occurring almost at the summit of T wave in each lead. Leads 2 and 3 show T wave coming off above the iso-electric line. T wave rounded leads 1 and 2. S wave prominent lead 3. Cardiogram is of the left ventricular type. Pulse rate 50.




**17/11/30**—.E.C.G. now shows slight delay in the P-R interval. T wave rounded and inverted to a slight extent in lead 1 and marked in leads 2 and 3. Q wave is prominent in lead 3. Left ventricular preponderance has disappeared. Pulse rate **74**.




**22/11/30.**—P-R interval still slightly prolonged. T wave normal lead 1. Inversion of T wave lead 2 has almost disappeared. Still present in lead 3. Pulse rate 66.




**11/12/30.**—E.C.G. now normal. Complete disappearance of heart block, and changes in T wave and QRS complex. Pulse rate 80.

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# THE ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND

It is to be regretted that greater financial support is not given to this deserving Society, the eighty-ninth annual report of which has just been issued. Last year the sum disbursed in grants amounted to £2,154, an average of £24. 15s. 2d. for the eighty-seven grants awarded. This relatively small sum does not reflect great credit on the generosity of the medical profession in Ireland. Some whole counties give no support to it at all, while others—not always the poorest—do little. The need for support is great. It means a little comfort to our broken brethren, aid for the widows in adversity, education and help for the orphans in order that they may get a decent start in life. In some cases the Society has even to provide the essentials of life. Were these facts realised by the medical profession as a whole, it would receive that generous support to which it is entitled as the only medical charity in Ireland. The honorary treasurers for Northern Ireland are : Co. Antrim—Dr. V. G. L. Fielden; Co. Armagh—Dr. W. J. Dawson, Newtownhamilton, and Dr. Dougan, Portadown; Co. Down—Dr. Nolan, Downpatrick; Co. Londonderry—Dr. J. W. Killen, Londonderry; Co. Tyrone—Dr. R. H. C. Lyons, Dungannon.

# The Functional Divisions of the Large Intestine

*By* RICHARD H. HUNTER, PH.D., M.D., M.CH.
Department of Anatomy, Queen's University, Belfast

THE portion of the alimentary canal in which the final processes of normal digestion occur, and in which almost all the digested food is absorbed, is the small intestine. At the lower end of this long tube is the large intestine, serving, it is usually taught, as a reservoir to receive, store, and periodically discharge the accumulation of waste. Throughout the small intestine the contents are maintained in a semi-fluid state—a state favourable to the chemical processes which the food there undergoes, and favourable also to ease its movement through the canal.

The material delivered to the colon is still semi-fluid, but in the colon the absorption of water from it causes the consistency of the waste to become more dense. This change in density of the colonic contents, however, is not uniformly spread over the total length of the colon. The soft semi-fluid or mushy mass is confined to the cæcum, ascending colon, and right third of the transverse colon.

The contents of the left two-thirds of the transverse colon, the descending and terminal colons, are, as a rule, as formed in consistency as that which is discharged through the anal canal. This difference in consistency of the colonic contents at once raises doubts in our minds as to the value of the purely anatomical subdivisions of the colon, into ascending, transverse, descending, iliac, and pelvic portions, as two distinct physiological segments are thus seen to be present : a proximal segment with soft, mushy contents, and a distal segment with contents of a firm consistency.

The desirability of giving a functional description to the large intestine was first suggested by Holzkneck (1), when he observed for the first time the movement of an opaque meal along the colon under the fluorescent screen. He stated that in this case a column of fæcal matter, corresponding to about one-third of the whole length of the colon, was suddenly displaced into the next empty compartment of similar length. This displacement, he stated further, was preceded by the disappearance of the haustral segmentation, both in the region about to be emptied, and in the next section of the gut. Immediately the latter was filled, the haustral segmentation reappeared. This procedure was repeated about three times during the twenty-four hours. Up until this observation it had been taught that the motion of the fæcal contents of the large intestine was that of a constant slow motion, causing an accumulation of the contents of the gut in the pelvic colon and rectum, with an occasional sudden evacuation.

The treatment of constipation was based on this belief, but now the term "slowing of the peristaltic motion" is no longer heard in this connection.

A. E. Barclay (2) later published similar observations on the movements of the colon. In them his observations were more accurate than those of Holzkneck, and he was able to make the following statement : At the time of the observation, the bismuth food outlined the ascending and first two inches of the transverse colon.

No shadows were detected in the rest of the transverse colon or splenic flexure. A second bismuth meal was then given, and in fifteen minutes another radiogram was taken, and this picture showed an appreciable bismuth shadow in the splenic flexure. "The picture suggests," says Barclay, "that the wave of contraction that swept the transverse colon had ceased entirely at the splenic flexure, and that the action of gravity alone had carried the food downwards through the air that happened to be present in this part of the bowel."

It is to the first part of Barclay's statement that I should like to draw special attention, i.e., that the barium shadow corresponds to the ascending colon and the proximal two inches of the transverse colon : that the shadow corresponded to the area in which the colonic contents are soft and mushy, as Barclay's "two inches" is the measurement of the shadow cast by a segment of gut photographed in a "fore-shortened" positioned. The transverse colon, as is well known, first comes forward before turning across the body to the left.

Even more accurate observations have since been made by Wingate Todd (3) by means of cinematograph pictures taken from the fluorescent screen. By this means Todd was able to demonstrate that the barium shadow fills up the ascending colon and right third of the transverse colon, and that it remains there for some time before passing onwards to the next segment of colon, which extends as far as the splenic flexure, and that the transference of the barium was not a gradual process, but taken over at one movement. As he describes it : "Without warning, the shadow spreads suddenly like a puff of smoke, into the distal colon."

The ascending, and right third of the transverse colon, which I shall now refer to as the *proximal colon,* is distinct morphologically from the remainder of the large intestine, which I shall now speak of as the *distal colon.*

These two segments have distinct nerve supplies. The proximal colon, according to Muller (4), is supplied by the upper splanchnic group of nerves, the cell stations of which are in the cœliac ganglion, while the distal colon receives splanchnic fibres from the lower splanchnic group.

In the development history of the colon, further evidence in support of this sub-division of the colon is found.

When the umbilical loop of intestine is withdrawn from the umbilical cœlom into the abdominal cavity, the colon passes obliquely from the level of the right iliac crest, below the lower pole of the right kidney, upwards and to the left to an ill-marked rounded splenic flexure, skirting on its way the greater curvature of the stomach, already, at this stage of development, of a definite shape. In this oblique part of its course, the colon crosses the second part of the duodenum and folds the latter against the dorsal abdominal wall, and where this occurs an adhesion is formed between the colon and the duodenum (5). This adhesion is an important landmark in the study of the development of the ascending colon, for the changes which take place in its formation occur around this point.

With the further growth of the colon, the gut shows two definite bulgings which quickly become well-marked curves; the segment of the gut between the duodenal

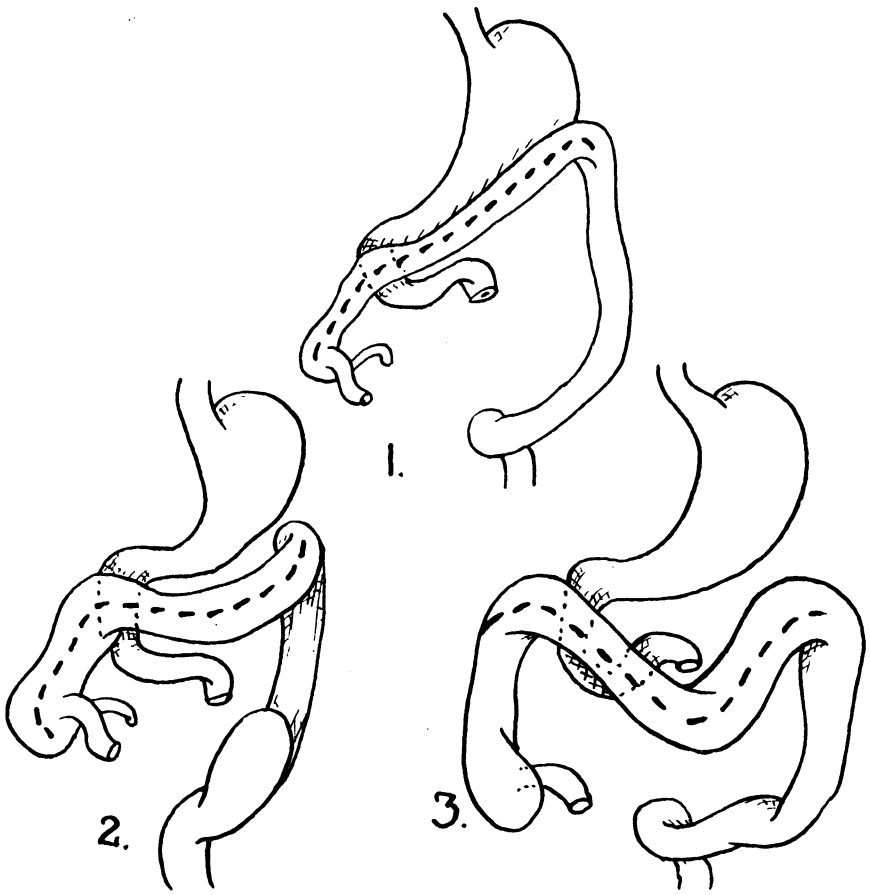
adhesion and the cæcal anlage forms a gentle curve convex to the right, and the segment between the adhesion and the splenic flexure a curve with the convexity directed caudally. By the further increase in length of the colon, these two curves become more distinct; the segment to the right of the duodenal adhesion assumes an oblique direction and marks a sharp angle at the point of adhesion with the left segment of the gut, while the latter becomes still more curved and no longer in strict apposition with the greater curve of the stomach. At this stage the right and left segments are connected to the dorsal abdominal wall by a common mesentery, but the right segment, by its continued growth, now makes a rotation on its long axis from left to right, turning over on the anterior surface of the right kidney. The mesentery of this part of the gut is thus brought against the parietal peritoneum of the dorsal abdominal wall, and the two adjacent layers being now practically immovably fixed against one another, fuse; the mesentery of this part of the colon disappears, and the bowel is left firmly fixed in the normal retro-peritoneal position of adult anatomy.

According to this description, the segment of the developing large intestine lying between the cæcal anlage and the duodenal adhesion forms the whole of the ascending colon, and that part of the transverse colon which lies between the hepatic flexure and the duodenal adhesion, i.e., the right third, the two parts being the "proximal colon," which in its development corresponds to the functional proximal colon already described.

The differentiation of the mucosa of this part adds additional reason for this account (6). It first begins near the rectum and differentiates in an oral direction, but a second point of differentiation begins at the ileo-cæcal orifice, and grows backwards, i.e., in an aboral direction. These two sets of differentiating mucosæ finally meet at a point in the gut which corresponds to the junction of the right third and left two-thirds of the transverse colon. In other words, at the junction between the proximal and distal colons.

There is, too, a difference in the character of the mucosa in the two parts. In the proximal colon it is twenty-four microns in thickness, while in the distal colon it is forty-one microns, the colon in both cases being in the contracted condition. In the distended condition the mucosa measures seventeen microns in the proximal colon and twenty microns in the distal (7).

The part of the large intestine which corresponds to the proximal colon of this description shows a further marked peculiarity—anti-peristaltic movements. These anti-peristaltic movements, or more briefly, "anastalsis," were first observed by Cannon (8) in the cat, by means of X-rays. Elliott and Barclay Smith (9) found the same movements to occur in the proximal gut of cats exposed under warm salt solution. They also observed this activity in the rat, guinea-pig, rabbit, hedgehog, and ferret. In the herbivorous animals which they studied, they found that sacculation of the proximal colon was associated with kneading movements, and that there was a direct correlation between the degree of kneading motion and the degree of sacculation.




THREE FIGURES TO ILLUSTRATE THE DEVELOPMENT OF THE COLON.

1. The Colon as it appears in a dissection of a human fœtus of 13.5 cm. C.R. length.
2. The Colon as it appears at 20 cm. C.R. length.
3. The Colon as it appears at 23 cm. C.R. length.

The existence of anastalsis in the human colon, however, has been questioned. Inferential evidence for anastalsis had been drawn from cases of cæcal fistula, but the condition had not been directly observed, until Bloch and Von Bergmann (10) by means of the X-rays, saw the contents of the cæcum and ascending colon forced at first onward to the commencement of the transverse colon, and then, after a short period, a definite retrograde movement of the contents back into the lower end of the ascending colon and cæcum. At a later date Rieder (11) brought forward further evidence, based on X-ray studies, that active anastalsis does occur in the human colon, as in that of lower forms.

The anastalsis waves seen experimentally in lower animals always begin at a tonically constricted ring on the gut wall. This tonic ring is, therefore, of prime importance in originating anastalsis, and Boehm (12) described human cases in which X-rays have revealed a narrowing of the transverse colon situated at the right of the mid-line, with undivided contents between it and the cæcum. This ring is frequently seen in the ordinary dissecting-room subjects.

The anastalsis of the proximal colon produces a thorough mixing and overturning of the material contained within it, with a consequent exposure of the semi-fluid mass to the absorbing mucosa. And as the contents of the next segment of the colon are of a more solid consistency, the first part of the colon must be regarded as a place in which digestion and absorption can occur, and thus functionally be a distinct unit, and worthy of a distinct description of its own.

It has from time to time been suggested that the cæcum and ascending colon constitute a "cess-pool," and as such, therefore, to be a source of possible injury to the economy of the animal body as a whole. Surgeons who hold this view, without hesitation freely remove this segment of the gut. Those surgeons who intelligently "follow-up" the after-results of the operation soon realised that great injury to the general health of the patient resulted, and ceased this operation. And now, when a knowledge of this functional importance of the proximal colon has succeeded the knowledge of its morphology, it can be readily understood why it cannot be removed with impunity.

The old anatomical description of ascending, transverse, descending, iliac, and pelvic colons must be relegated to the darkness of the past, and a new description worthy of the importance of part adopted—a description based on function and morphology, i.e., a proximal digestive and absorbent portion consisting of ascending and right-third of the transverse colon; and a distal segment consisting of the remainder of the large intestine, which has practically no power of absorption, and with a secretory power probably limited to the formation of mucus for lubrication of the fæces, which is stored there until a suitable opportunity for defæcation occurs.

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## Plate No. 1—Dr. R. H. Hunter's Paper

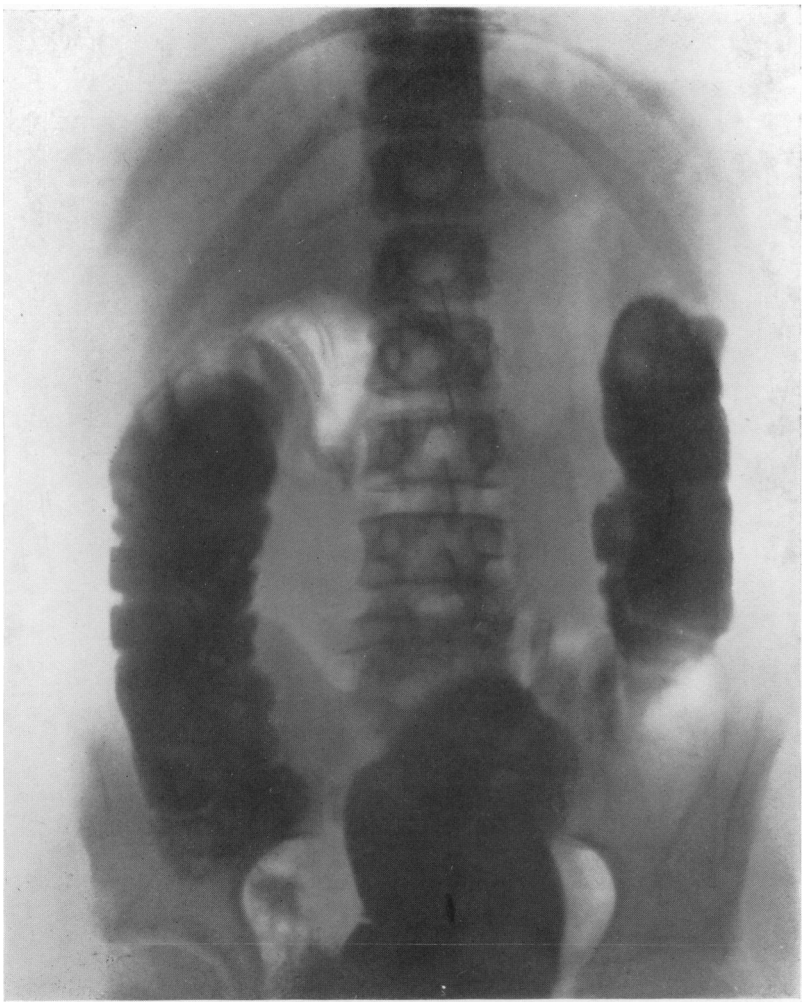


PLATE 1.

X-ray photograph of a barium enema showing the functional divisions of the large intestine. The opaque meal is lying in the first functional part of the colon. The second functional part is subdivided into two segments. The proximal of these segments is empty, and the distal shows the opaque meal. The first functional part is in a state of anastalsis, and the proximal third of the transverse portion thus appears empty.

# Diverticulitis of the Colon

*By* IAN FRASER, M.CH., F.R.C.S., ENG. & I.
from the Royal Victoria Hospital, Belfast

DIVERTICULA, or pouches, have been described arising from almost all sections of the alimentary canal—œsophagus, stomach, duodenum, small intestine, and large intestine.

Many of these are mere pathological curiosities, and on account of their rarity have no definite syndrome of symptoms or fixed mode of treatment. Of the diverticula arising in the large bowel, the cases are sufficiently frequent and the literature so prolific that the condition is now a well-recognised entity. The condition is not a rare one, and every practitioner must have cases of it among his patients; and certainly for surgeons it has constantly to be kept in mind, appearing in one of its many forms, and tending to mimic some other abdominal lesion.

The condition was first mentioned over seventy years ago, but it was in 1885 that Arbuthnot Lane described the disease in detail, and in the last twenty years, with the perfection of radiology, it has become better known.

The actual frequency is hard to estimate, as writers are so divergent in their figures. In the Mayo Clinic the condition is said to be present in one person in every eight over 45 years of age.

Larrimore and Graham state that, in 3,446 cases of complete X-ray of the intestinal tract, they found diverticula of the colon in seventy-one.

Case, with a series of 6,847 X-ray examinations, had 138 cases, and Bunting in 2,600 post-mortems found it nineteen times.

The following notes are based upon the cases which have occurred in the Royal Victoria Hospital, Belfast, and some personal cases.

In going through the records of the hospital for the last ten years, I could only find some fifteen cases of the disease, and with some other cases the total is brought up to twenty.

Of these only four occurred in women, which points to the preponderance among males. Other observers find that among the cases seventy to eighty per cent. are found in men.

As regards age, in the majority it is well over 60, and, with one notable exception excluded, the average age would work out at about 65. In the notes, mention is made in many cases that the patient was obese, and a history of chronic constipation was present in most, but not all, of the cases.

The etiology or causation of the disease is really unknown. Constipation is usually blamed, but against this is the fact that constipation is more frequent in women, and chronic obstruction can exist for years without producing any signs of diverticula.

Flatus has also been blamed, and this sounds plausible—the gas distending the gut and forming little sacs; but this is ruled out when it is found that there is,

prior to the appearance of the pouches, a marked thickening of the gut—the so-called pre-diverticular stage. Sepsis in general, and oral sepsis in particular, has been blamed: this is a fairly safe cause and one very hard to disprove. No definite single factor appears responsible: perhaps it is several working together.

The disease in many is undiagnosed, as it does not give rise to any symptoms unless complications arise. It is then usually spoken of as "Diverticulosis of the Colon," and its presence is usually accidentally discovered when a bismuth meal or enema has been given for some other lesion. Consequently it is usually overlooked until inflammation or some similar trouble sets in. The best descriptions of diverticulosis have been obtained from the physicians working in the large clinics, where opaque meals are almost routine in every case. The disease is thus often discovered in unexpected cases, and at a stage before the onset of complications. The diverticula are found most abundantly in the pelvic or sigmoid colon. They can occur in the large intestine anywhere, but are least frequent in the cæcum and rectum—the two places where the lumen is largest.

As a rule the pouches are small, flask-shaped or pyriform. They vary in size from a grape-seed to a grape, and communicate with the bowel by a very narrow neck scarcely admitting a match. They arise from the lumen of the colon and push through the muscle wall where it is already weakened by the entrance of the blood vessels; subsequently they enter the small fatty epiploic bodies which abound and hang free from the surface of the gut in this region.

The gut wall is greatly thickened. This takes place before the actual out-pouching. This stage is the "prediverticular stage." In a radiogram taken at this stage one sees that the bowel no longer shows the normal sacculation (fig. 1), but has become firm and rigid (fig. 2). Later the diverticula appear (fig. 3), and as long as stasis does not take place in them, and a free passage exists for the entrance and exit of fæces from the diverticula into the lumen of the gut, the condition is known as "diverticulosis," and no symptoms are apparent as far as the patient is concerned. When inflammation arises in the diverticula, with a series of possible sequelæ analogous to those found in appendicitis, the condition of "diverticulitis" arises (fig. 4).

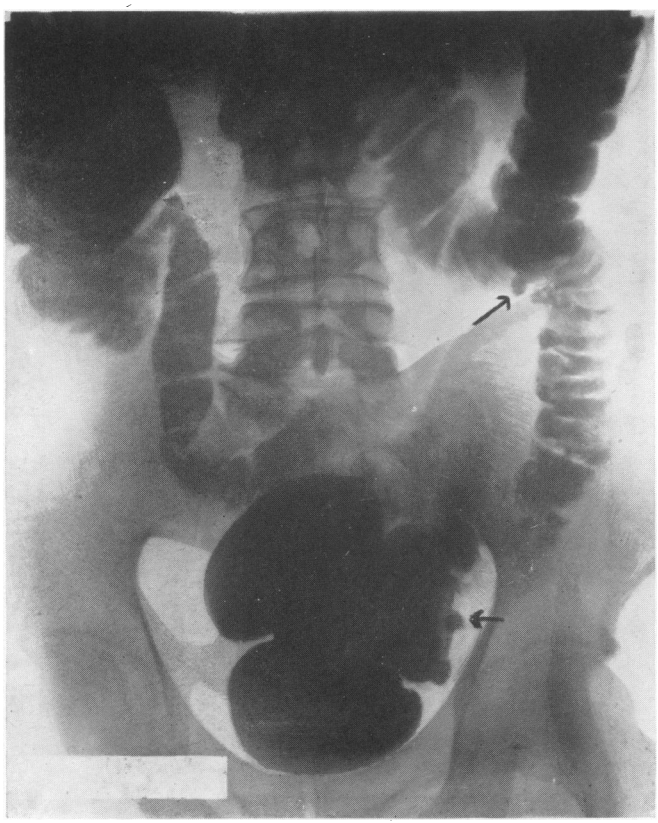
## SYMPTOMS.

As regards the symptoms in general of the disease, the cases are best classified into the following groups:—

1. Those without any symptoms, i.e., with diverticulosis, in whom the disease was discovered fortuitously. They are rather like people with a high blood-pressure who often are unaware of their complaint until some major calamity occurs.

2. Those in whom there are recurring attacks of inflammation, i.e., intervals of comfort alternating with periods of pain, tenderness, and constipation (or colonic irritation). There may be irritation of the bladder, if the involved portion of gut is in relation to or adherent to the bladder, as it very often is. The temperature and pulse are raised, the abdominal wall is rigid in the left lower quadrant, nausea is present, and vomiting is variable. After the attack, which lasts a few days, there

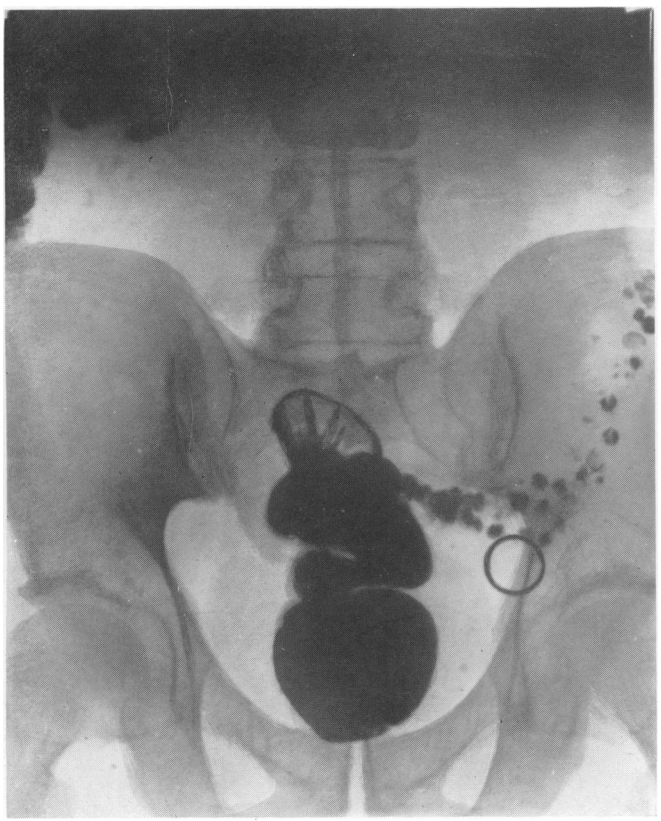
## Plate No. 2—Mr. Ian Fraser's Paper



RADIOGRAM No. 1.

Opaque enema showing diverticulæ filled.

## Plate No. 3—Mr. Ian Fraser's Paper



RADIOGRAM No. 2.

Pelvic colon now empty, but diverticulæ still filled.

is a return to the diverticulosis stage, and the patient awaits a recurrence, which nearly always occurs. With each attack a certain amount of sclerosis and obliteration may take place, involving some of the sacs—just like an attack of phlebitis in varicose veins. With each attack adhesions occur.

Frequently these attacks occurring in the elderly fat man are spoken of as "left-sided appendicitis."

3. Those in whom the onset is sudden general peritonitis. In one of the pouches there is a rounded mass of hardened fæces, and with the peristalsis of the colon and thinning of the pouch wall this is shot into the clean peritoneal cavity like a bullet from a revolver—the "pistol-shot" perforation described by Murray.

The clinical picture needs no description. Sudden acute lower abdomen pain, with board-like rigidity, vomiting, rapid pulse, subnormal temperature, and shock. All the signs of a perforated viscus.

4. Those in whom following previous attacks there have formed protective adhesions, so that when a perforation occurs the extruded mass forms a localised abscess, and a tender phlegmonous swelling appears in the left iliac fossa.

This abscess may disappear spontaneously by drainage into the bowel again, as noted by the passage of pus per rectum, but more often it is relieved by the surgeon's knife, with the liberation of much foul pus, gas, and even fæces. The result is often the formation of a temporary or even permanent fæcal fistula. Usually the fistula closes spontaneously, and the patient again returns to his old state.

5. Those in whom adhesions form between the colon and a neighbouring organ, frequently the bladder.

Notes of two such cases were interesting, showing how the attacks of diverticulitis kept recurring, and finally culminated in the sudden appearance of gas, fæces, and B coli pus from the urethra. With the appearance of severe cystitis the original pain subsided. Such a condition was of course impossible, and both cases succumbed rapidly to ascending infection of both kindeys. With an immediate colostomy above the fistula, the stream of foul contents could have been diverted.

6. Those in whom the thickening of the wall increases: the adhesions to the surrounding parts get denser, and a gradual stenosis of the gut eventually leads to acute intestinal obstruction. Many such cases have been operated upon in the past—a colostomy performed and the diagnosis made of a large cancer in the colon, which on account of adhesions was considered irremovable, and an ultimate prognosis of six to nine months given. When the patient is living ten to fifteen years later, one has had to reconsider the diagnosis.

The above include the usual types met with, but at times the condition has to be differentiated from mucous colitis by the passage of slimy stools, and from carcinoma of the rectum or pelvic colon when abdominal and rectal examination have revealed a palpable tumour.

The true diagnosis, although suspected, is really made definite by the radiologist only.

The syndrome of symptoms, the presence of a tumour, recurring attacks of pain, the type, age, and sex of the patient, bladder irritability, the absence of blood in

the stools, all make the diagnosis possible, but a radiogram, when the result is positive, makes the diagnosis definite.

As regards sigmoidoscopy, a problem arises. It is painful to such patients. Inflation with air is a definite risk. The bowel, being no longer pliable, cannot be threaded upon the barrel of the instrument. The openings of the necks of the sacs are so small and often the mucous membrane so œdematous that they cannot be seen with the naked eye—in fact, in a specimen removed at operation they are often very hard to locate, and finally, if one did find a small opening, would he be content to diagnose the case on such slender evidence without a radiogram? Therefore, why subject the patient to an examination painful, dangerous, and indefinite, and one which, whether positive or negative, will be followed by an X-ray picture?

The diverticula can be shown by means of an opaque meal, either taken by mouth or, better still, in the form of a fluid enema.

To attempt this during an acute attack when spasm is present gives an unsatisfactory result. A little preliminary bowel lavage with hot olive oil—by which it is hoped to empty the sacs—will ensure a better picture; also an injection of atropine may reduce any spasm present.

An immediate picture will show the bowel well filled, and along and outside the lumen of the gut small beads corresponding to the outline of the diverticula. (Radiogram 1—plate 2.)

A still better picture is obtained when the bowel proper is emptied, but the small diverticula still retain their opacity. (Radiogram 2—plate 3.)

With such the diagnosis is definite, and the question of treatment arises.

## TREATMENT.

In the cases with no symptoms, many say no treatment is necessary. Others, going on medical lines, advise regulation of the bowels, abstention from cellulose-containing or gas-producing food (vegetables, etc.), and a course of an autogenous vaccine from a bona-fide focus.

The suggestion has been made that frequent bismuth enemata should be given so that the bismuth would flow in and fill the sacs.

In the cases with recurring attacks, if the patient is strong and the area of the bowel involved small, a resection—even attended with risk—is a safer procedure than to wait the arrival of complications with, perhaps, death—a fæcal fistula or a permanent colostomy.

There is one patient whom I know who keeps herself free from any trouble by hot olive oil enemata. These she gives herself once per week, and has done so for two years, and by so doing she keeps herself free from attacks, although these were frequent formerly. Such regular care few people, of course, will undertake.

When the acute emergency arises no fixed treatment can be prescribed. Each case should be treated on its own merits—in one it may be drainage of a large abscess, in another the cleaning of a soiled peritoneal cavity.

When a fistula appears with the bladder, the immediate treatment is a temporary colostomy above the growth, and when the junction with the bladder is clean, excision and some plastic operation tried. With some the best that can be hoped for is a permanent colostomy.

In patients, when colostomy is refused, and where removal is impossible on account of adhesions, the small bowel has been joined to the large below the affected part, so that the fæces are short-circuited and no longer pass over the open mouths of the sacs.


DIAGRAMS TO ILLUSTRATE STAGES IN DEVELOPMENT OF DIVERTICULITIS.

FIG. 1. Appearance normal barium enema.
FIG. 2. Barium enema showing pre-diverticular stage.
FIG. 3. Barium enema showing diverticulosis stage.
FIG. 4. Barium enema showing diverticulitis stage.

## CONCLUSIONS.

1. Diverticulitis is not a common disease, but it is not a rare one.

2. Its direct mortality is hard to estimate; if judged by hospital figures it is high, but this is no fair criterion, as only cases with complications come to hospital,

and one cannot say how many patients are walking about suffering from the disease in a mild form in whom some of the major catastrophes never occur.

3. Its relationship to cancer is doubtful. Most writers say it is not a precursor, but W. T. Mayo found carcinoma in thirteen out of forty-two cases of diverticulitis.

4. It is hard to treat successfully. The treatment that is theoretically correct is often unsuitable and impracticable when one examines the type of patient—elderly, fat, and with a chronic history. A difficult operation requiring careful dissection may be expected, and this the average case will not stand. So that safe palliative operations are more than often performed.

(RADIOGRAM No. 1.—Opaque enema showing diverticulæ filled.)

(RADIOGRAM No. 2.—Pelvic colon now empty, but diverticulæ still filled.)

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## FORTHCOMING PAPERS

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Other papers to be published in this number will include the following :—

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## REVIEW

ANTE-NATAL CARE. By W. E. T. Haultain and E. Chalmers Fahmy. Edinburgh : E. & S. Livingstone. Second edition, 1931. pp. XI + 121 ; 1 plate. 5s. net.

FOR several reasons this book on ante-natal care should make a wide appeal to the general practitioner. He is the one who can make ante-natal work successful in practice, and thus contribute greatly to the reduction of maternal mortality which is so earnestly desired. The authors have covered the ground fully and yet in a very concise manner. Where a number of methods of treatment are available, they have chosen to describe in detail the procedures they have found of most service in the Edinburgh hospitals to which they are attached, and to mention the alternatives in considerably less detail.

In the opening chapters the diagnosis and hygiene of pregnancy, together with methods of examination of the patient and the general outline of ante-natal care in pregnancy, are considered. Then follow chapters on the diagnosis and treatment of contracted pelvis, and the toxæmias and hæmorrhages of pregnancy. In the section on albuminuria, it is stated that the normal blood area is 5 to 15 mg. per 100 c.c. of blood. In this school the normal range is considered to lie between 20 and 40 mg. per cent., and therefore the values given in this book seem to us rather low.

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# A Case of Primary Cutaneous Actinomycosis

*By* W. G. McKinney, M.B., Londonderry

Actinomycosis as a cause of chronic or indolent suppuration possessing certain clinical characteristics is now widely recognised, and once suspected is as a rule easy to demonstrate in a given case.

The disease is not particularly common in general practice, even in agricultural areas where one would expect its highest incidence, and a case which came my way recently showed some interesting and unusual features which I thought worthy of report.

It has been stated by Hamilton Bailey (1) that two-thirds of all human cases of actinomycosis occur in the neck and face (facio-cervical), and that in that situation it vies with branchial cyst for the premier place as the most frequently missed lesion.

Less frequently it may occur in some part of the alimentary canal; especially in the cæcum, appendix, or liver. Again, it has been recorded as occurring primarily in the lungs and central nervous system, and it is stated in a standard textbook of surgery (2) that the skin may also be affected, but in the majority of cases only by extension from the deeper tissues.

Conflicting opinions are held concerning the modes of spread of actinomycosis. Cranston Low (3) states that it spreads by the lymphatics either direct to the skin or through infected lymphatic glands, the infective organism having gained entrance through a decayed tooth; while Hamilton Bailey (4) states that the spread is by direct continuity, that lymphatic spread is practically unknown, but that late in the disease blood-borne metastases may occur, though they are not rare.

The medical history for the past twelve years of the case under review, a gardener, aged 60 years, is as follows :—

**1920.**—While employed as a cattleman, the patient gradually developed a series of reddish painless blotches on the skin. The patches varied in size from that of a shilling to that of a saucer, and were distributed over the whole surface of the body except the face. There was no history of an injury at the time of their occurrence, and the general health remained unaffected.

**1926.**—December—"Septic thumb" of three weeks' duration. His occupation at this time was that of a gardener.

**1927.**—February—Suppurating spot developed on the scrotum. Healing occurred uneventfully.

**1927.**—July—Sudden onset of suppurating sores on the skin of the back, left thigh, left upper gluteal region, lumbo-sacral region, and left arm. There was considerable constitutional disturbance, and the patient was treated in the City and County Infirmary, Derry, where the causal organism was identified as the ray fungus, and was found in pus from a sore. Deep ulceration occurred in several of the sores, which healed slowly, with the formation of considerable scar tissue. The patient was treated with potassium iodide, which he continued to take for about six months following discharge from hospital.

**1929.**—February—Acute appendicitis occurred. Operation was performed in City and County Infirmary. There is no bacteriological record of the nature of this infection.

**1929.**—June—An attack of threatened intestinal obstruction occurred. This was relieved by non-operative measures in hospital.

**1931.**—April—Scrotal abscess developed, the cause of which was assigned to the stab of a stick received while at work. This lesion healed with rest and fomentations.

**1931.**—May—Infected tooth socket followed extraction. There was considerable delay in healing.

**1931.**—November-December—There developed a swollen and indurated area in the perineum, situated close to the anterior anal margin and extending forward for a distance of about half an inch. The condition somewhat resembled that found in peri-urethral abscess, but there were no urinary disturbances, and in a day or two the mass broke down and discharged thick yellow pus. The ray fungus was obtained from the pus, and it was possible to culture it on suitable media. There was no history of an injury to account for the trouble, nor was there any pathological activity in the area of the scrotum, which in the previous April had been involved in an abscess.

**1932.**—Seen recently, the patient was in apparent good health, and had returned to his work as gardener. Examination of the chest revealed fine inspiratory crepitations at both lung bases, but the patient remains free from symptoms of disease of the respiratory organs. His only complaints were that he could not sleep well at night, and had begun to feel somewhat "nervous" of late. He is thoroughly convinced that "the fungus" will get the better of him yet, for which belief, possibly, he has a modicum of justification.

The Wassermann reaction was negative.

## TREATMENT.

During his last illness the patient was treated at home. The sinus in the perineum was opened up and packed for forty-eight hours with strips of gauze soaked in tr. iodine, as recommended by Hamilton Bailey. The dressing subsequently was ung. iod. denig., freely applied and covered with lint.

Iodine was given internally in milk as introduced by Chitty; the dose of the iodine (two per cent. fresh tincture) being gradually increased from five drops to ten drops three times a day. Under this treatment the lesion rapidly healed and was almost gone in a fortnight.

The patient is still taking iodised milk.

## CONCLUSION.

The foregoing is the description of a case of primary actinomycosis of the skin, in which on different occasions of its outbreak the ray fungus has been identified by independent observers. There is no positive evidence of involvement of internal organs or structures, and it is difficult to surmise how the fungus gained entrance in the first instance, and having done so, what the modes of spread were which

resulted in lesions occurring at such remote and dissociated parts of the body as the shoulder and the perineum. The most common method of spread is by direct continuity. This does not explain, however, the very frequent lesions which occur in a given case in tissues remote from the original abscess, e.g., lungs, pleura, brain, etc. (5), and these are undoubtedly pyæmic. This does not necessarily mean that a septicæmic condition does or can exist, but merely that infected material must travel by either the blood-stream or lymph channels to give rise to typical abscesses remote from the original lesion. No instance is recorded of the ray fungus being isolated from the blood-stream—to do so, I understand, would be a mere accident. It is impossible to imagine a condition of septicæmia in actinomycosis such as obtains in anthrax, typhoid, etc.

I wish to thank Dr. Johnston for his assistance in the investigation of this case, and for the help which he has given me in compiling these notes.

REFERENCES.

(1) BAILEY, HAMILTON, 1931, *Post-Graduate Medical Journal*, Vol. VI, p. 68.
(2) ROSE and CARLESS, 1921, *Manual of Surgery*, Tenth Edition.
(3) LOW, R. CRANSTON, 1927, *Common Diseases of the Skin*.
(4) BAILEY, HAMILTON, 1931, *Post-Graduate Medical Journal*, Vol. VI, p. 68.
(5) PRICE, 1930, *Textbook of Medicine*, Third Edition.

# Nature's Effort to Cure an Appendicitis

*By* DAVID HUEY, F.R.C.S.EDIN., and J. C. MANT MARTIN, L.R.C.P. & S.I.

ON 21st July, 1930, I was asked to visit W. H., aged 15 years, who gave the following history: Three days previously he was attending a stonemason, and in the intervals of leisure he retired to a half-ripe gooseberry bush, at which he indulged freely. That night he took ill with vomiting and diarrhœa. When I saw him he had a well-marked peritonitis, with a large quantity of free fluid in his abdomen. It was a difficult question to decide whether he would have a better chance of recovery after an operation or by expectant treatment. After a consultation I decided on the latter course. He did so well on this treatment that he was quite better by the 12th August, 1930. On the 23rd of the following November I was asked again to visit this patient. He now had a well-marked attack of acute appendicitis. I took him straight to hospital, and Dr. Mant Martin operated. On opening the abdomen, he found a stump of an appendix about one inch long, greatly enlarged and inflamed, with a tapering point. This was removed, and attention was then directed to a lump about the size of a duck's egg lying alongside the cæcum, wrapped up in the great omentum. This was also removed, and inside was found an appendix two and a half inches long and as thick as a man's thumb. Nature had thus performed an amputation, and wrapped up the separated part in several folds of the great omentum. The patient made a good recovery, though he had a sharp attack of measles.

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# Duodenal Ulcer in a Case of Non-Rotation of the Small Bowel, with Partial Rotation of the Large

*By* P. P. Wright and F. de S. Malone
from the Mater Infirmorum Hospital, Belfast

The following case is placed on record on account of the importance of recognition of abnormal situation of the small and large intestines. Failure to recognise these misplacements may lead to grave errors in procedure, to injurious prolongation of an operation, or even to its abandonment altogether.

H. R., male, single, aged 30, was admitted to a surgical ward of the Mater Hospital in March, 1931. Medical treatment for his indigestion had been tried in vain for three years. He gave a typical history of duodenal ulcer; pain coming on three hours after food, relieved by food; "hunger pain" and pyrosis were complained of. He was tender over the upper part of the right rectus, and rigidity to palpation was also evident.

A radiological scrutiny was carried out, and the findings were strongly in support of the diagnosis previously arrived at on clinical grounds. Plate 4 is reproduced from a radiograph made at this time, and shows a fairly typical distortion of the duodenal bulb. It will be noticed that the stomach is placed well over to the left, with the pylorus definitely to the left of the middle line. The descending limb of the duodenum lies centrally, and from its lower limit the horizontal part passes to the right. The terminal segment then runs nearly vertically upwards to the duodeno-jejunal flexure, which is located at the right side of the second lumbar vertebra.

The two or three uppermost coils of the jejunum are well filled, and occupy the right upper quadrant.

## OPERATION.

The abdomen was opened with a right paramedian incision. The stomach being drawn into the wound, the pyloric region immediately came into view, and a well-established ulcer was seen to occupy the anterior surface of the first part of the duodenum. Invagination of the ulcer was done in the ordinary way.

Attention was next directed to the disposition of the duodenum and jejunum, and this was found to agree with the X-ray appearances, the duodenum curving to the right instead of to the left. This abnormal arrangement of intestine made the performance of gastro-enterostomy very difficult, if not impossible, and on this account it was decided to do gastro-duodenostomy.

This was accordingly done, and was much facilitated by the marked mobility of the second part of the duodenum.

The appendix was found to present in the lower part of the wound, and was removed. The cæcum and ascending colon lay almost in the middle line of the abdomen.

The patient made an uneventful recovery, and three weeks after the operation was again subjected to X-ray examination.

Plate 5 shows the condition after the anastomosis. The stoma connecting stomach

and duodenum is clearly seen. Some of the barium has made its way up to the bulb, which is still quite irregular in shape, but the main portion has filled up and dilated distal part of the duodenum. Barium can be seen passing down the proximal jejunum, but the flexure can hardly be seen in the reproduction.

The operation resulted in immediate and total relief from the symptoms complained of, and the patient has remained perfectly well up to the present time.

Anomalies of rotation and fixation of the parts of the intestinal canal derived from the mid-gut are by no means uncommon, and are apt to create extra difficulty and sometimes danger in many abdominal operations. In this case fortunately a very simple and easy solution presented itself.


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# THE ULSTER MEDICAL SOCIETY LIBRARY

THE activities of the Ulster Medical Society have recently been directed towards the reorganisation of the Society's library. Shelf space and expense are two formidable barriers to any progressive policy, but by the very willing and enthusiastic help of Mr. K. Povey, librarian to the Queen's University, the librarian of the Ulster Medical Society has been able to draw up a plan which is acceptable to the members of the Society.

The University Library has agreed to bind and store, at the end of each year, certain recommended periodicals, which then become the property of the University. This has enabled the Ulster Medical Society to purchase more current literature than formerly, and some fourteen such publications are now available for consultation. Duplication of literature is avoidable by the arrangement. Consultation with and borrowing of books at the University by members of the Society has been arranged, and conversely the Society has undertaken to admit members of the University to the Society's library on the recommendation of the Queen's University librarian.

New books of interest to the general practitioner are to be added to the Society's library from time to time, principally textbooks on diagnosis and treatment by recognised authorities.

A new "Cosy" stove has been installed in the Ulster Medical Society's library, and this should make a great difference to the comfort of members. It is hoped that these new arrangements will result in greater use being made of its facilities by the members than formerly.

Plate No. 4—Dr. Wright and Dr. Malone's Paper

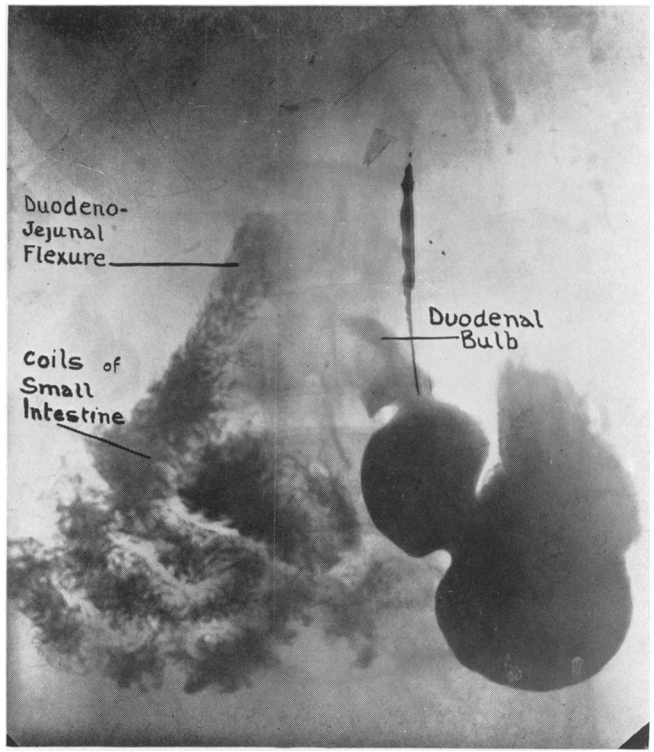
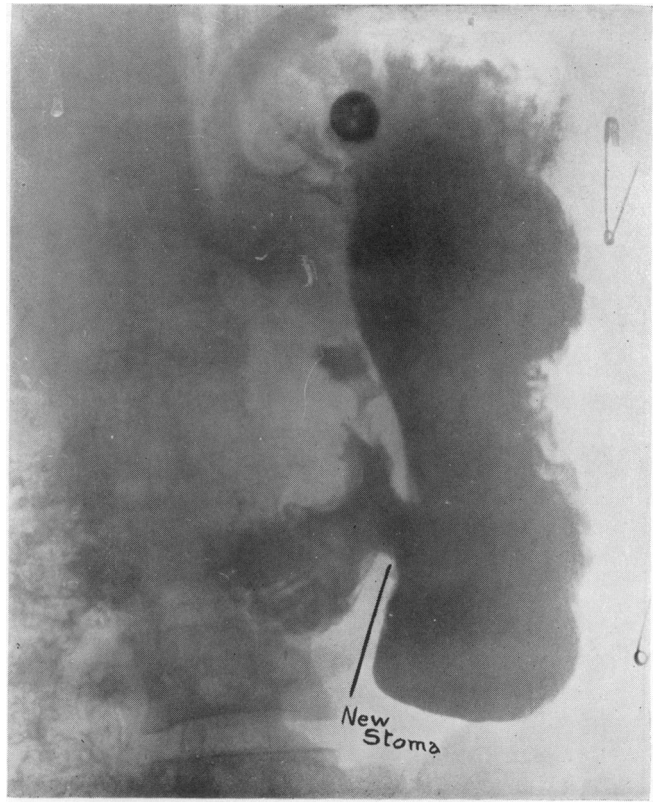



Plate No. 5—Dr. Wright and Dr. Malone's Paper



# A Case of Perforated Diverticulitis

*By* V. J. Morcom Taylor, F.R.C.S.ED.
from the Lurgan District Hospital

The following case presents some unusual features, and may be of interest.

G. W. A., aged 69 years, an indoor labourer, was admitted to hospital on the evening of Monday, 7th December, suffering from severe abdominal pain. He had always been a perfectly healthy man, except for an attack of "indigestion" fifteen years ago which, at the time, was thought to be due to a duodenal ulcer.

His history was that after tea on the day previous to admission, he had been seized with sudden abdominal pain, most marked in the lower half of the abdomen, and had sent to his doctor, who prescribed Dover's powder, gr. x. At 10 p.m. the doctor called to see him, and found him in bed and asleep, his family saying that he was better. On the following morning the doctor visited him, and saw him in bed. His temperature was then 98.2°F, pulse 76; he had no pain, and the abdomen was quite soft on palpation. As a precautionary measure he was kept in bed, but at 5 p.m. the same day the doctor was again called, and found that the pain had returned and was general over the abdomen, which was rigid all over. The patient was flushed, temperature was then 99.6°F, pulse 86. He had vomited mucus and gastric juice. He was immediately removed to hospital, where I saw him and advised immediate operation. Temperature was then 100.6°F, and pulse 132. Liver dullness was absent.

A diagnosis of rupture of a hollow viscus was made, the history of indigestion fifteen years previously suggesting that the duodenum might be the site of the lesion, though the age of the patient, the temperature, pulse, and the original low distribution of the pain were against it, and the possibility of perforated diverticulitis was borne in mind.

In view of these facts, a small right paramedian incision was made, three inches long, and centred on a point half an inch above the level of the umbilicus. A small opening was made in the peritoneum, a little gas escaped, and a milky peritoneal exudate in no great quantity was seen. There was absolutely no odour. No stomach contents were seen, but as the patient had had no solid food for over twenty-four hours, this fact was considered to be of no significance, and in view of the fact that the peritoneal exudate appeared to be typical of that found in cases of peritoneal perforation, the incision was extended upward. Upon the stomach and duodenum, as well as upon the small intestine, were numerous flakes of fibrinous lymph, but there was no ulcer nor perforation nor lesion of any kind. Appendix, gall-bladder, and pancreas were then examined, and found to be normal. The small intestine was then systematically examined for perforation, and found to be normal, but on withdrawing the terminal coil of ileum from the pelvis, there was a gush of thin, brown, fæcal-smelling fluid. The sigmoid colon was then palpated, and the terminal six inches was found to be the site of advanced diverticulitis. The original incision was now extended downward, and finally a perforation which admitted the tip of

the index finger was found in the terminal inch of the colon upon its right side. The edges of the perforation were black and gangrenous. With the aid of a long needle-holder, the perforation was loosely closed by mattress sutures, and a tag of fat which happened to be lying conveniently to hand was stitched over it. A rapid 'toilette' of the peritoneum was then performed, and four or five lumps of hard fæces the size of a pea were picked out of the general peritoneal cavity. Colostomy was considered, but in view of the almost hopeless prognosis, it was thought inadvisable to prolong the operation any further. A large drainage tube was placed into the pelvis and the wound sutured in three layers, with, in addition, four "through and through" sutures.

For eight days the patient very slowly improved. On the fourth day fæcal matter appeared through the drainage tube, and on the eighth and tenth days the bowels moved normally. The abdomen was not distended, there was no vomiting, nor did the temperature rise above normal after the operation.

On the eighth day, however, he developed a broncho-pneumonia, and died eleven days after operation.

The points of particular interest in this case are :—

1. That the perforation of the colon must have occurred on the Sunday afternoon, but that the infection was confined at first to the pelvis, and the general peritoneal cavity was not infected until 5 p.m. on Monday.

2. The misleading character of the peritoneal exudate in the upper abdomen, and the complete absence of any odour.

3. That the patient lived for so long after operation, and died not, as one would expect, of peritonitis, of which there was no sign, but of broncho-pneumonia.

I am indebted to Dr. Boucher of Donacloney for the patient's history prior to admission to hospital.

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# REVIEW

DISEASES OF INFANTS AND CHILDREN. By F. M. B. Allen, M.D., M.R.C.P. London : Baillière, Tindall & Cox. 1930. pp. 595. 15s.

THIS volume represents the successor of the book on the same subject by the late Dr. John McCaw, in Messrs. Baillière, Tindall & Cox's series of Medical Publications. In this book Dr. Allen has avoided as far as possible theoretical considerations, and confined himself to practical points of diagnosis and treatment. The first chapter discusses diseases of the newborn, and includes a simple but careful account of the modern views on infant feeding. Chapters are devoted to affections of the respiratory, circulatory, digestive, nervous, and urinary systems, and to mental deficiency, the myopathies, blood diseases, and general conditions such as achondrophasia and Still's disease. Indeed, no really important omission can be found. The arrangement is clear and the printing excellent, although the absence of illustrations is to be regretted. There is an appendix which contains recipes for preparing food, and a useful collection of prescriptions. The book fulfils the conditions which the author claims for it : That it should be of service to medical students preparing for their final examinations, and for the general practitioner who wishes to obtain an account of the subject in the light of modern knowledge and practical experience.

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# Some Toxic Effects of Vitamin D

*By* T. A. KEAN, M.D.

Assistant Physician, Mater Infirmorum Hospital, Belfast

AT a recent meeting of the Insurance Practitioners Central Committee (September, 1931), it was mentioned that one practitioner had prescribed as much as 5 oz. of cod liver oil *per diem* for a panel patient. While it is admitted that this case is exceptional, there is ample evidence that a not inconsiderable number of practitioners are in the habit of prescribing very large doses of cod liver oil in cases of tubercular disease. That this treatment is empiric there is little doubt, and it is with the object of pointing out the possible dangers of such treatment that this article is submitted.

Although it was not until 1912 that Sir F. G. Hopkins demonstrated the presence of vitamins as essential to a healthy dietary, the existence of some such accessory food factors had long been suspected. Even while scurvy was treated as an infectious disease, it was recognised that the addition of fresh vegetables or fruit juice to the dietary cured the disease. Similarly cod liver oil and sunlight have long been used in the treatment of rickets and of tuberculosis.

Cod liver oil contains vitamins A and D. Vitamin A is readily rendered inert by heat in the presence of oxygen. Its action is growth-promoting, anti-infective, and a preventative of xerophthalmia. It is widely distributed throughout the vegetable kingdom, where its natural precursor is a yellow pigment known as carotene. Carotene is transformed into vitamin A in the liver. It produces its physiological effects when given in very small doses (1). Apart from its anti-infective action, it plays no known part in the treatment of tubercular infections.

Vitamin D is thermostable. It can be prepared in concentrated form by the irradiation of ergosterol with ultra-violet light. A preparation of irradiated ergosterol from the National Institute of Medical Research has now been adopted as the international standard for vitamin D. The action of vitamin D in tubercular infections is that it brings about the calcification of the tubercles. This action has been described in detail by Levaditi and Li Yuan Po (2). They showed also that large doses of vitamin D caused abnormal calcium deposits in the aorta and the kidneys (3).

During the past three years many other workers have called attention to the toxicity of large doses of vitamin D. From the mass of original articles on this subject, the following facts may be taken as now established.

(a) Calcification in the tissues at the site of pre-existing microbic lesions, e.g., tuberculosis and encephalitis lethargica. (Kreitmair, Kreitmair and Hintzelmann, Reyher and Walkhoff, Wenzel, Wenzel and Hückel, Harris and Moore, Hubner, Rabl, Herzenberg, Spies, Jacmin and Ledecq.)

(b) Variations in blood-calcium and in blood-phosphorus. (Klein, Smith and Elvove, Brown and Shohl.) They are equally agreed on the presence of acidosis.

(c) A diminution of the bone calcium. (Miller and Fray, Bills and Wirick, Brown.)

The most striking evidence of the toxicity of vitamin D, however, is afforded by the experiments carried out by Robert Sœur at the Hospital for Joint Diseases, New York.

He administered, *per os*, to young guinea pigs, of medium weight, daily doses of irradiated ergosterol varying from 5,000 to 100,000 Steenbock rat-units over periods of from four to thirty-five days. (The present international standard had not then been fixed.) His general results were :—

1. A cessation of growth in all the animals.

2. A loss of weight, frequently absolute, more rarely relative (taking into account the normal increase in the control).

3. A series of morbid symptoms : diarrhœa, increase of respiratory rate, loss of vivacity, falling out of hair, and death after a time which depended on the condition of the guinea-pig and the size of the dose.

4. *The Autopsy.*—Macroscopically, little change, but treated after von Kossa's method, section of the organs revealed the presence of abnormal calcium deposits, notably in the kidney, aorta, and heart, and less marked in lungs, stomach, and intestines.

5. In five cases the guinea-pigs were killed, as their condition was precarious, and, on examination of the blood, hypercalcæmia was found in all cases (10.4 to 11.6 mg., the controls varying from 9.5 to 10.5). The normal phosphorus is about 8 mg. The animals killed during the first few days showed hyperphosphatæmia (9.5 on the fourth day); this then decreased progressively until it was only 5.5 on the thirty-fifth day.

In the bones the outstanding feature was the re-absorption of the bone. The outer layers of the long bones, the ribs, the vertebræ, and the skull, consisted of irregular sheets, thin, badly stained with eosin, eaten away in notches. The Haversian canals were enlarged and covered by normal bone-marrow cells and also by osteoblasts.

These phenomena were especially manifested at the metaphyses of the long bones. The intensity of the bony re-absorption seems to be a complex matter depending on the dose and the duration. The maximum was attained in animals receiving 20,000 units *per diem* for twenty-one days.

Similar experiments with adult rats and with one adult guinea-pig showed that the abnormal deposition of calcium was much more marked than in the young guinea-pigs. That this is due to age rather than to race is suggested by the fact that the adult guinea-pig showed the same increase in the deposition of calcium as the adult rats. It would also appear that young animals possess a greater power of calcium elimination than adults.

One ounce of cod liver oil is roughly equivalent to 400 Steenbock rat-units, but vitamin D content of cod liver oil varies very considerably. Although 2,000 Steenbock units *per diem* are not likely to bring about the same dramatic sequelæ, as recorded above, in the human adult, nevertheless there is sufficient clinical evidence to show that the prolonged administration of large doses of cod liver oil is followed by nausea, lassitude, diarrhœa, and myocardial degeneration. It would

be of interest to the profession generally if advocates of massive doses were to have autopsies performed on the death of their tuberculous patients.


REFERENCES.

(1) LEAGUE OF NATIONS HEALTH ORGANISATION—*Report of the Permanent Commission on Biological Standardisation* (*B.M.J.*, 7th November, 1931).
(2) LEVADITI and LI YUAN PO, *La Presse Medicale*, 17th December, 1930.
(3) *Ibid*, 5th February, 1930.
The particulars of Sœur's experiments are taken from *La Presse Medicale*, 4th July, 1931.


# REVIEWS

## AN OUTLINE OF ENDROCRINOLOGY. By W. M. Crofton, B.A., M.D. Edinburgh: E. & S. Livingstone. Second edition, 1929. pp. 163; 52 figures; 48 plates. 8s. 6d.

ON the whole this little book is a useful exposition of the principles of endrocrinology. The subject is dealt with succinctly under the headings of the various glands of internal secretion. In certain chapters, especially the one on the pancreas, the author is very unorthodox, and the statement that insulin should only be used in diabetes with severe acidosis will be accepted by few in our school. In another place the author definitely states that "surgery is certainly the antithesis of a desirable method" in the treatment of exophthalmic goitre, and that he had "cured the severest cases of this disease by controlling the symptoms with first pituitary extract and the cause with immunisation."

There is much to be said, however, for a book of this nature in which the author does not give merely a summary of well accredited facts, but has some original ideas to justify his going into print.

## DIAGNOSIS AND TREATMENT OF VENEREAL DISEASE. By David Lees, M.D. Edinburgh: E. & S. Livingstone. Second edition, 1931. pp. 634; 8 coloured plates; 87 figures. 15s. net.

THIS excellent handbook on venereal disease contains 605 pages of reading matter, and is profusely illustrated with photographs and eight coloured plates.

It is a very practical book, different methods of treatment being fully dealt with. The treatment of the early stages of syphilis is given in tables, each one set out for that stage in which the disease is diagnosed. Syphilis of the nervous system is given separately, and the different tests on the cerebro-spinal fluid are given in detail. Intensive methods of treating nervous syphilis are shown.

The chapter on the immediate and later toxic effects due to the administration of the arsenical preparations is of great value to both the specialist and general practitioner. The whole subject is fully considered, with details of treatment and methods of preventing their occurrence.

Gonorrhœa and its complications, both male and female, is shown in detail. The chapters on its treatment are very complete.

A pharmacopœia, with the various drugs used in the treatment of venereal disease, is given at the end of the book.

This book can be thoroughly recommended to student and practitioner, especially on account of its practical nature.

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# REVIEWS

## AN OUTLINE OF ENDROCRINOLOGY. By W. M. Crofton, B.A., M.D. Edinburgh: E. & S. Livingstone. Second edition, 1929. pp. 163; 52 figures; 48 plates. 8s. 6d.

ON the whole this little book is a useful exposition of the principles of endrocrinology. The subject is dealt with succinctly under the headings of the various glands of internal secretion. In certain chapters, especially the one on the pancreas, the author is very unorthodox, and the statement that insulin should only be used in diabetes with severe acidosis will be accepted by few in our school. In another place the author definitely states that "surgery is certainly the antithesis of a desirable method" in the treatment of exophthalmic goitre, and that he had "cured the severest cases of this disease by controlling the symptoms with first pituitary extract and the cause with immunisation."

There is much to be said, however, for a book of this nature in which the author does not give merely a summary of well accredited facts, but has some original ideas to justify his going into print.

## DIAGNOSIS AND TREATMENT OF VENEREAL DISEASE. By David Lees, M.D. Edinburgh: E. & S. Livingstone. Second edition, 1931. pp. 634; 8 coloured plates; 87 figures. 15s. net.

THIS excellent handbook on venereal disease contains 605 pages of reading matter, and is profusely illustrated with photographs and eight coloured plates.

It is a very practical book, different methods of treatment being fully dealt with. The treatment of the early stages of syphilis is given in tables, each one set out for that stage in which the disease is diagnosed. Syphilis of the nervous system is given separately, and the different tests on the cerebro-spinal fluid are given in detail. Intensive methods of treating nervous syphilis are shown.

The chapter on the immediate and later toxic effects due to the administration of the arsenical preparations is of great value to both the specialist and general practitioner. The whole subject is fully considered, with details of treatment and methods of preventing their occurrence.

Gonorrhœa and its complications, both male and female, is shown in detail. The chapters on its treatment are very complete.

A pharmacopœia, with the various drugs used in the treatment of venereal disease, is given at the end of the book.

This book can be thoroughly recommended to student and practitioner, especially on account of its practical nature.

be of interest to the profession generally if advocates of massive doses were to have autopsies performed on the death of their tuberculous patients.


REFERENCES.

(1) LEAGUE OF NATIONS HEALTH ORGANISATION—*Report of the Permanent Commission on Biological Standardisation* (*B.M.J.*, 7th November, 1931).
(2) LEVADITI and LI YUAN PO, *La Presse Medicale*, 17th December, 1930.
(3) *Ibid*, 5th February, 1930.
The particulars of Sœur's experiments are taken from *La Presse Medicale*, 4th July, 1931.


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# THE ULSTER MEDICAL SOCIETY

THE fifth meeting of the session was held in the Medical Institute on Thursday, 7th January, 1932, at 8.30 p.m., Mr. Irwin, F.R.C.S., the president, in the chair. Before introducing the lecturer for the evening, Mr. Irwin spoke of the loss which the Society had sustained in the death of Professor James A. Lindsay, who, he said, was a former Fellow, Secretary, and President, and a frequent contributor to the discussions. He asked those present to stand for a few moments in silence in respect for Professor Lindsay's memory. Mr. Irwin then introduced Mr. E. P. Brockman, of Westminster Hospital, London, who read a paper on "Common Disabilities of the Foot." Mr. Brockman divided these disabilities as those arising from strains and ruptures of ligaments, those of inflammatory origin, and those due to acquired and congenital deformities. He considered the treatment of each of these conditions in turn, and laid stress on the importance of manipulative methods as opposed to surgical operations. This stimulating and instructive paper will be published in a future issue of the ULSTER MEDICAL JOURNAL. An animated discussion followed the paper, in which the president, Professor Fullerton, Mr. H. Stevenson, Mr. P. T. Crymble, Mr. H. P. Hall, Mr. G. F. McFadden, Mr. C. Calvert, and Mr. Ian Fraser, took part.

The sixth meeting of the session was held on Thursday, 21st January, 1932, in the Medical Institute, Belfast. Mr. S. T. Irwin, the president, was in the chair. Professor Fullerton read a paper entitled "Hæmaturia," illustrated by lantern slides, in which he described the clinical features of 1,208 cases which he had personally investigated. These included 605 cases of bleeding from the kidney, 6 of bleeding from the ureter, 470 cases of bleeding from the bladder, 115 cases due to prostatic conditions, and 12 cases of bleeding from the urethra. He emphasised the importance of making careful examination for blood in the urine of all cases presenting themselves for urological examination. He pointed out that frequently bleeding was not continuous, and therefore more than one examination for blood should be made. He also discussed the importance of careful physical examination in all cases of "symptomless hæmaturia," lest malignant or other grave diseases of the kidney should be overlooked. He also emphasised the fact that tuberculosis of the bladder was almost invariably secondary to tuberculosis of the kidney. Professor Fullerton analysed his cases in considerable detail. The modern methods available for clinical investigation and treatment were described. This paper will be published in a future number of this Journal.

The seventh meeting of the session was held in the Medical Institute on Thursday, 4th February, 1932, at 8.30 p.m. In the absence of the president, Mr. S. T. Irwin, the chair was occupied by Professor W. J. Wilson. After consideration of the library policy of the Society, Dr. C. G. Sundell, of the Seamen's Hospital, Greenwich, read a paper entitled "Some Aspects of Rheumatism." Dr. Sundell began with an account of the rheumatic child, and compared the conditions found there with those found in the rheumatic adult. Dr. Sundell believes from his experience that rheumatism is not an infection, and pointed out the disagreement found among bacteriologists in their attempt to

isolate a causative organism. Dr. Sundell then described the pyretic treatment which he has adopted, and which he holds as a great factor in the prevention of cardiac involvement. A very animated discussion ensued. Sir Thomas Houston said he could not agree that chronic rheumatism in the adult was the same as rheumatism in the child. Dr. F. M. B. Allen also disagreed with the lecturer, and stated that in his opinion the condition was due to an infection, and said that allergy might be a factor. Mr. P. T. Crymble, Dr. Charlotte Warner, Dr. Mea Fraser, Professor W. W. D. Thomson, and Dr. E. D. Rutherford, also took part in the discussion. Dr. Sundell defended his views to all the points raised. Professor Wilson, in conveying the thanks of the Society to Dr. Sundell, expressed the opinion that good health was probably the best preventative of rheumatism in all ages.

The eighth meeting of the session was held in the Medical Institute, on Thursday, 18th February, 1932, at 8.30 p.m. The president was unable to take the chair, owing to illness, and Professor W. J. Wilson deputised for him. Sir Thomas Houston read a paper, "The Role of the Enterococcus in Clinical Medicine." He first referred to the various workers who had contributed to the present knowledge of the enterococcus, the main point arising from their work being the demonstration that enterococci could resist heating at 56°C for one hour, in contra-distinction to other streptococci. Passing to cases of peri-onychia, Sir Thomas Houston brought forward convincing arguments against the "thrush" theory of the causation of this condition, and emphasised the constant finding of enterococci in the lesions. He then described the biochemical and serological reactions of the enterococcus, defining gelatine liquefiers and non-gelatine liquefiers. These groups could be further sub-divided into type I and type II by serological methods. A soluble substance giving specific reactions had been obtained from the gelatine liquefiers. An agglutination method applicable to human blood was described, and many cases illustrative of its value in clinical medicine discussed. Cases of ulcerative colitis, acne, urticaria, chronic rheumatism, and iritis, had all given positive agglutinations, and had responded remarkably well to vaccine therapy. Sir Thomas concluded his paper by showing in tabular form the result of the bacteriological examination of gall-bladders, teeth, catheter specimens of urine, and peri-onychia.

Sir Thomas Houston was followed by Dr. Boyd Campbell, who chose as his subject "Sub-Arachnoid Hæmorrhage." The anatomy of the meninges was first discussed, and the main causes of sub-arachnoid hæmorrhage mentioned. Trauma, encephalitis, tumour, and aneurysm could all be responsible for this condition. The main signs and symptoms depend on the amount and the rapidity of the bleeding. They are caused in part by purely mechanical factors, but the febrile reaction, the neck rigidity so simulative of meningitis, and a peculiar tendency to bleed, may be due to disintegration products. Lumbar puncture is the most important factor, both in diagnosis and in treatment. The outlook, provided this treatment is instituted, is good. In the two cases which Dr. Boyd Campbell described as showing a marked delay in clotting time, hæmostatic serum had a very beneficial effect. Professor W. J. Wilson, Dr. Coates, Dr. Rankin, Dr. Allison, Dr. J. A.

Smyth, and Professor W. W. D. Thomson, took part in a discussion on the two papers.

The president of the Ulster Medical Society and Mrs. Irwin gave a reception and dance to the members of the Society in the Grand Central Hotel, Belfast, on Tuesday, 9th February. The president, Mr. S. T. Irwin, was unfortunately confined to bed with influenza, and was unable to be present. Mrs. Irwin and her son, Mr. Sinclair Irwin, received the guests, who numbered about three hundred.

## BRITISH MEDICAL ASSOCIATION
## PORTADOWN AND WEST DOWN DIVISION

A MEETING of the Portadown and West Down Division of the B.M.A. was held on Wednesday, 24th February, in "The Castle," 20 Market Street, Lurgan, at 4.15 p.m. Dr. V. M. J. Taylor demonstrated a case of perforation of a diverticulum of the colon. Dr. T. B. Pedlow showed an unusual prostate. Dr. Foster Coates of Belfast read a paper entitled "Hints on the Clinical Diagnosis of Disease of the Lungs." It is hoped to publish this paper in a future number of the ULSTER MEDICAL JOURNAL.

Donacloney, Co. Down. CHARLES J. BOUCHER, *Hon. Secretary.*

## BRITISH MEDICAL ASSOCIATION
## NORTH-EAST ULSTER DIVISION

A MEETING of the Division was held in the Café, Coleraine, on Friday, 15th January, 1932, the president, Dr. Boylan, in the chair. Before calling on Professor Johnstone to read his paper on "Ovarian Tumours," the question of the annual dinner of the Division was discussed, and it was agreed to hold this in the Giant's Causeway Hotel at the end of March.

Professor Johnstone then read his paper. He first discussed simple tumours, and then passed to the malignant forms. He dwelt on the great difficulty in diagnosis of the latter, and pointed out the necessity of a guarded prognosis in all tumours of this region. Apparently harmless tumours sometimes prove fatal in a short time, while cases of a frankly malignant nature are often controlled for long periods by the use of deep X-rays. This paper was essentially clinical in outlook, and was illustrated by many cases which had come under the personal supervision of the lecturer.

The second meeting of the Division was held in Coleraine on Friday, 19th February, 1932, Dr. Boylan, the president, in the chair. Dr. W. Porter and Dr. W. F. Evans were appointed as representatives on the Hospitals Committee for Northern Ireland. Dr. James Boyd, Chief Medical Officer, Ministry of Labour (N.I.), then read a paper on "Some Observations on the First Year's Working of Panel Practice in Northern Ireland." It is hoped to publish this paper in the July number of this Journal.

1 Mervue, Portrush. J. M. HUNTER, *Hon. Secretary.*

# LONDONDERRY MEDICAL SOCIETY

THE annual dinner of the Londonderry Medical Society was held in the Northern Counties Hotel, Londonderry, on Saturday, 28th November, 1931. The president, Dr. J. G. Cooke, unfortunately through illness was unable to occupy the chair, and his place was taken by Dr. J. M. Killen.

There was a very good turn-out of members, and the Society was very glad to offer hospitality to a number of guests who were representatives of the profession in other parts of the Province, including Mr. S. T. Irwin, the president of the Ulster Medical Society, and Sir Thomas Houston.

A feature of the evening was the excellence of the toasts, and the replies to them. Special reference certainly ought to be made to a point which Mr. Irwin made in proposing the toast of the Londonderry Medical Society, showing that Derry was the natural centre of such a large area, and that this was evidenced by the fact that active members of the Society were to be found in districts so far afield as Omagh, Raphoe, Castlederg, Limavady, Ramelton, Letterkenny, etc., and that this should help exceedingly in ever increasing the importance of the Society as a focus for the advancement of medical science in the very large area which it served.

The second meeting of the session was held in the Infirmary on Friday, the 18th December, 1931, at 4.30 p.m. There was a good attendance of members to welcome Dr. Cooke and to instal him in the chair for his year of office, and hear his presidential address, which was entitled, "Some Landmarks in the History of Medicine." Needless to say, Dr. Cooke handled this subject with consummate ability, and it was listened to with the greatest interest by everybody present. At the end of the meeting it was unanimously decided to ask the president to allow his address to be published, and it is to be hoped that this course will be adopted.

The third meeting of the year was held on the 5th February, 1932, in the Infirmary, at 4.30 p.m. This took the form of a discussion on the clinical notes of interesting cases, introduced by various members of the Society, as detailed below :

(1) Case of *dermatitis repens,* demonstrated by Dr. K. O. Robertson of the Limavady District Hospital. This was a young man under 35 years of age, with an eight-year history of painless chronic ulceration of feet and toes, which was quite resistant to all forms of treatment, including amputation of the affected areas, as the amputation wound became similarly affected. Blood pressure was normal, pulse felt in both feet, Wassermann negative, blood sugar normal. Eventually found to respond best to massive doses of a vaccine made from a staphylococcus isolated on several occasions from the ulcers, and leaving the affected areas alone. In this way two or three toes have simply dropped off, and stumps healed much more quickly than after any surgical excision.

(2) Case of actinomycosis showing pyæmic metastatic lesions, demonstrated by Dr. W. G. McKinney. (Notes of this case appear elsewhere in this Journal.)

(3) Case of severe nicotine poisoning (?) in a snuff-worker, demonstrated by Dr. J. McCormick of Buncrana. This was a strong, healthy man of 45, who got all his teeth out and returned to work the next day. He soon noticed palpitation and tremor. This went on, and eventually he had to cease work. In three weeks'

time he lost five stones in weight. A fine tremor was present all over the body; pulse 180; frequent gastric upsets. Blood pressure 180S/108D. Investigation revealed nothing, except slight degree of renal inefficiency, which was thought to be toxic. Discussion centred on question of differential diagnosis between nicotine poisoning and exophthalmic goitre, and in the absence of any objective signs of the latter, the balance of opinion favoured the former.

(4) Dr. W. A. McCurdy read notes of a case of very advanced secondary anæmia following metrorrhagia from a bleeding sub-mucoid fibroid. Hæmorrhage from this seemed to start immediately after a period, and continued sometimes for a fortnight. After period and hæmorrhage in November, hæmoglobin was fifty per cent. and red cells 2,840,000 per cmm. After period and hæmorrhage in December, hæmoglobin was found to be nineteen per cent. and red cells 950,000 per cmm. Sub-mucous fibroid removed per vagina in the Infirmary by Dr. Alexander, and on 1st February hæmoglobin was found to have risen to fifty per cent., and red cells to 4,150,000 per cmm.

(5) Dr. A. L. Weir initiated a discussion on acute idiopathic pulmonary œdema, and gave a short account of two cases which had occurred in his practice. An account was given of the histories and symptoms of these cases, stress being laid on the apparent uselessness of any therapeutic measures. Some present quoted similar experiences, but no one was able to record a recovery. Dr. Weir himself suggested the use of subcutaneous oxygen, but pointed out that speed would be all-important, as both of his cases only lasted three or four hours after onset of symptoms.

(6) Finally Dr. R. W. Cunningham gave an account of a case of intra-abdominal hæmorrhage occurring in a dock labourer. This man had occasional bouts of indigestion, and on this particular morning complained of a pain in epigastric region, but walked to his work, a distance of two miles, and being unable to work, walked home again, and only then sought medical aid. It was decided to remove the patient to the Infirmary, as by this time extreme collapse had set in. Dr. Alexander opened the abdomen and evacuated a very large clot of blood, but failed to find any cause for the hæmorrhage. The patient made an uninterrupted recovery, and is now back at work.

J. A. L. JOHNSTON, *Hon. Secretary.*

19 Clarendon Street, Londonderry.

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## LISBURN AND DISTRICT MEDICAL GUILD

AT a meeting of this Guild held in Dr. S. R. Hunter's house at Dunmurry, with Dr. J. G. Johnston in the chair, Professor W. J. Wilson, Queen's University, Belfast, introduced a discussion on "Continued Fever."

He pointed out that with few exceptions the pyrexia was to be attributed to infection with a living micro-organism. In the course of his address he made reference to :—

1. Influenza and other catarrhal conditions of the air passages.

2. Infections with streptococci and staphylococci and their differentiation.
3. The typhoid-paratyphoid group and their diagnosis by means of blood culture, Widal tests, and cultivation of the bacilli from the stools.
4. Typhus fever and the Wilson, Weil-Felix reaction.
5. Tuberculosis.
6. Diphtheria.
7. Infection from milk of cattle:
   (*a*) Scarlet fever and streptococcal tonsilitis, and the possibility of the cow's udder being a "reservoir of infection" for streptococci of human origin.
   (*b*) Tuberculosis of bovine type.
   (*c*) Undulant fever, and the kinship of the *Bacillus abortus* of Bang and *Micrococcus melitensis*.
   (*d*) Food poisoning resulting from presence of B enteritidis of Gærtner in milk.

An interesting discussion followed, and a vote of thanks was proposed by Dr. S. R. Hunter and seconded by Dr. W. M. Hunter.

I should like to take this opportunity to thank the members of the Belfast Medical School who have so often cordially come to the Lisburn Medical Guild during the many years in which I have acted as secretary. They have materially helped to keep the members of the Society up to date, and all are warmly appreciative of their help.

14 Railway Street, Lisburn. J. W. PEATT, *Hon. Secretary.*

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## BRITISH MEDICAL ASSOCIATION
## TYRONE DIVISION

A MEETING of the Tyrone Division of the B.M.A. was held in the County Hospital, Omagh, on Thursday, 28th January, 1932. Dr. W. Lyle occupied the chair. A donation of £10 was made to the County Hospital from some old funds of the extinct Tyrone Medical Society in the treasurer's hands. Complaints were made that the panel mileage fund was being depleted by men who started branch surgeries miles from their homes, and that when sudden illness occurred among their patients, such men could rarely be found, and a local man had to do their work. A resolution was passed *nem. con.*, suggesting that distance should be counted from the doctor's *nearest* surgery. It was also suggested that no doctor should be allowed to take panel patients at a distance greater than would enable him to attend them properly. A further suggestion was made that this distance should not exceed a radius of seven miles from the doctor's residence. After some discussion it was agreed to draw the attention of the Ministry to the action of certain dispensary medical officers, who left their districts, in some cases daily, for the purpose of holding branch surgeries.

Four meetings of the Division have been held during the year, and almost half the members of the Division attended at least one of them.

Carrickmore, Co. Tyrone. G. A. M. GILLESPIE, *Hon. Secretary.*

## BELFAST MEDICAL STUDENTS' ASSOCIATION

THE sixth meeting of the session was held in the McMordie Hall on Friday, 12th February, when the president, Mr. Purce, occupied the chair. The meeting was arranged in conjunction with the Queen's University Branch of the League of Nations Union, and the speaker was Professor Walmsley. There was a very good attendance of members of both societies, and the attention of everyone during the lecture was a testimony to Professor Walmsley's ability to interest his audience.

The lecture was entitled, "The Cats and the Dogs," and in his opening remarks Professor Walmsley outlined the characteristics of these animals regarding their habits of life—the cats living solitary lives, each member of the species preferring to hunt alone, while the dogs were social animals, living and hunting in packs.

After pointing out that man resembled the dog, in that he was a social animal, Professor Walmsley went on to speak of the two kinds of knowledge man possesses—the knowledge of the heart and the knowledge of the head; and from that the speaker unfolded the history of the evolution of man from the time when he first became a hunter, leaving the trees to find flesh food.

After a most instructive and interesting address, which terminated all too quickly, the chairman left the meeting open for discussion, and several members of the audience availed themselves of the opportunity to question the speaker on points of interest.

A vote of thanks to the speaker was proposed by Dr. Dixon Boyd, president of the Q.U.L.N.U., and seconded by Mr. J. R. Armstrong. The chairman conveyed the vote of thanks to Professor Walmsley, who replied, and the meeting was adjourned.

S.U.S., Queen's University, Belfast. S. D. DONNAN, *Hon. Secretary.*

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## BRITISH MEDICAL ASSOCIATION NORTHERN IRELAND BRANCH

THE opening meeting was held on 18th November, 1931, when Dr. T. Killen was installed as president in succession to Mr. Howard Stevenson.

His address, "Rheumatism : Some Sulphur Speculations," correlated the many apparently dissimilar empirical methods of treatment employed in the past with the use of synthetic sulphur compounds familiar to-day.

He showed that they all had in common a definite effect on the disordered sulphur metabolism of rheumatic conditions. The product of keen observation, clinical research, and extensive reading, this address was most stimulating.

The second meeting took place on 14th January. Dr. B. R. Clarke and Mr. G. R. B. Purce contributed papers on "The Treatment of Pulmonary Tuberculosis by Collapse Therapy." They dealt most exhaustively with this subject, the first occasion on which this important new field for surgical technique has been presented locally. It is hoped to publish these two papers in the special Tuberculosis Number of the Journal.

8 Elmwood Avenue, Belfast. J. A. WOODSIDE, *Hon. Secretary.*

# BRITISH MEDICAL ASSOCIATION
## BELFAST DIVISION

THE second meeting of the session was held in the Medical Institute on Thursday, 28th January, 1932, at 4.15 p.m. The chairman, Dr. Robert Marshall, presided. Dr. R. H. Hunter, Queen's University, read a paper entitled, "Practical Eugenics."

Dr. Hunter began by pointing out that one of the peculiarities of written history is the inadequacy of the reasons given for the decline and fall of early civilisations. He then brought forward the view that Darwin's theory of natural selection appears to offer the only reasonable explanation; that the ascent of man was brought about by the survival of the fitter members of the race; that the race which was composed of the ablest and strongest members submerged and exterminated the weaker. He then showed that in higher civilisations the weaker individuals were protected, so that the law of natural selection was suppressed, and from that point racial decay began.

Dr. Hunter then proceeded to demonstrate by means of lantern slides the factors concerned in the transmission of hereditary characters. He spoke of the chromosomes, and the "genes," which constitute the chemical framework carrying these characters from parent to offspring. He explained how the genes from the mother were mixed with those of the father, so that the elements of both maternal and paternal characters were present in the offspring. He then told of many interesting experiments whereby the genes could be altered in the adult by environmental changes, with the result that new races and species were brought into existence. These changes in the genes are known as "mutations," and these extending over millions of generations have resulted in man as we know him to-day.

Amongst primitive people, the lecturer continued, the weakly could not survive the struggle for existence, and only the physically sound and the mentally strong succeeded in the struggle for existence, and they alone left behind a progeny to carry on the tribe or race. But when nations arrived at the so-called higher stages of civilisation, the weakly and the mentally deficient were no longer crushed by the stronger, but were preserved and nurtured, and permitted to reproduce their kind. These people—the weakly, the mentally sub-normal, and the failures, unrestrained by any considerations of prudence from perpetuating their kind, develop in greater and greater numbers, and finally submerge the fitter members of the race.

In Great Britain and Northern Ireland there are some 300,000 mentally deficient women, and only a small proportion of them are under institutional care. They are reproducing freely day by day in every city and in every county, and these, taken in conjunction with the thousands of physically unfit, are gradually bringing ruin to the nation.

Dr. Hunter then gave an account of the benefit the application of the laws of heredity could make on the human race. In twenty-eight of the United States of America the principle known as eugenics had been accepted, and laws passed which made compulsory the sterilisation of the unfit, the criminal, and the mentally deficient. In this country, he said, we have not yet begun to think seriously about putting similar laws into practice. But if we put off too long, and continue the

indiscriminate procreation of the mentally imperfect, the morally depraved, and the physically weak, then the end of the nation is in sight, our country will soon be at the mercy of less sentimental peoples, and our civilisation reduced, like that of ancient Greece and pompous Rome, to a mere name in history.

S. SIMMS, *Hon. Secretary.*

Ben Vista, Antrim Road, Belfast.

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# REVIEWS

MODERN MEDICAL TREATMENT. By E. Bellingham-Smith, M.D., F.R.C.P., and Anthony Feiling, M.D., F.R.C.P. London: Cassell & Co., Ltd., 1931. Vol. I, pp. 701; vol. II, pp. 705. 30s. net the two volumes.

THE appearance of two fair-sized volumes of a work on Modern Medical Treatment reminds us of the rapid development of this subject in recent years. No longer do we confine treatment to good food and nursing with the inward exhibition of a drug. Heliotherapy, actinotherapy, hydrology, and electrotherapy all have a place, while endocrines, vitamins, antigens, and antitoxins have each found its practical application. This book discusses all these forms of treatment from an eminently rational point of view. Older methods which have long proved their value are discussed, whilst only those newer methods have been recommended that have been found useful in the personal experience of the authors. If a method has been tried and found wanting, they do not hesitate to say so, and it is just this personal touch throughout the book that makes it of such great value to the busy practitioner. The book is interestingly written, and characterised throughout by a sanity and breadth of vision seldom found in a work of this kind.

THE COMMONER NERVOUS DISEASES. By Frederick J. Nattrass, M.D., F.R.C.P. London: Milford, Oxford University Press, 1931. pp. 218; 15 figs.; 2 plates. 12s. 6d. net.

THE busy practitioner owes a debt of gratitude to the Oxford University Press for the publication of this very readable book. Written for the general practitioner rather than the specialist, it contains only the essentials of what is acknowledged to be one of the most difficult branches of medicine. The chapter which deals with the examination of the patient is a model of clearness and orderly thinking, while the chapters devoted to the different clinical entities are, with a few minor defects, just as well written. We are glad to see the appearance of a loss of sensation on the centre of the face given as an early sign of tabes, and the emphasis given to the profound differences between the mental sequelæ in children and in adults in cases of epidemic encephalitis. In discussing migrane, the author might perhaps have mentioned that approximately sixty per cent. of epileptics have a migranious heredity. He might also have emphasised the fact that epilepsy commencing after the age of 30 is almost invariably organic, and not idiopathic. These, however, are minor criticisms, and Dr. Nattrass is to be congratulated on the outcome of his labours.

DISEASES OF THE STOMACH. By Hugh Morton, M.D. London: Edward Arnold & Co., 1931. pp. 181. 10s. 6d. net.

MANY large books have been written on diseases of the stomach, but few general practitioners can find time to digest them. It is, therefore, a pleasure to find a small book on this subject discussing the most recent views on diagnosis and treatment in concise, clear, and simple language. This book is well proportioned, and bears throughout the mark of a wide personal experience. This is particularly seen in the sections devoted to treatment. There are a few well-chosen X-ray illustrations, and it concludes with a brief account of stomach function tests. The general practitioner, for whom the book is primarily intended, should find it of great value.

# NATIONAL HEALTH INSURANCE NOTES
## BELFAST AREA

As I promised in my last notes to discuss the question of over-prescribing, I must now briefly consider this difficult problem—for problem it is to every insurance practitioner who endeavours to satisfy patients and at the same time spend his drug allowance economically.

The chief cause of the high cost on the Drug Fund is to be found in the Belfast inhabitants' love for a bottle of medicine. If the doctor does not prescribe a mixture, no matter what advice is given, the complaint, imaginary or otherwise, cannot be relieved.

Another strange belief of the Belfast inhabitant is the magic virtue of *three* bottles in succession. I suppose this belief was created in days of old by doctors in industrial areas, who, on account of their small fees, encouraged their patients to attend at least three times, and as the doctor usually charged the same fee for examination and medicine as for medicine alone, the patient came to the conclusion that medicine was much more important than the examination and advice.

The doctor is now faced with the delicate and difficult task of re-educating his patients, without loss of their confidence, to the fact that customs of yesterday are not always applicable to present-day conditions, and that many ills can be cured without resort to the fetish of the medicine bottle.

I believe this re-education is merely a matter of time, and at no distant date the Drug Fund will be able to bear any cost imposed upon it, in this necessary, and even at times expensive, treatment of certain diseases.

Dr. J. S. Jowett Lee has been appointed secretary to the Belfast Medical Guild in place of Dr. S. Rodgers, resigned. Dr. Lee should make an efficient secretary. It is to be regretted that the meetings of the Guild are but poorly attended. Yet insurance practitioners could make this a very helpful organisation to themselves if they took sufficient interest in it.

The Medical Club had an enjoyable supper at their rooms in the Grand Central Hotel last December. But I fear the high cost of running a social club in a central position makes it unattractive to most practitioners.

The most economical way of making a social club successful would be for all insurance practitioners to join the Ulster Medical Society, and they could use the Institute for clubrooms. I am sure the Ulster Medical Council would welcome such a scheme.

The North Belfast Branch of the Medical Guild continues to have well-attended meetings every month in the Institute. These meetings, under the chairmanship of Dr. Cahill, are all for the welfare of the practitioners of the district, as the harmonious working of a service is a great advantage. Dr. Boyd, R.M.O., who was a guest at the last meeting, expressed the hope that other districts would follow North Belfast's lead. He said such guilds were a great benefit to all concerned, and made for the smooth working of the National Health Insurance.

S. McComb.

Albertville, Crumlin Road, Belfast.

indiscriminate procreation of the mentally imperfect, the morally depraved, and the physically weak, then the end of the nation is in sight, our country will soon be at the mercy of less sentimental peoples, and our civilisation reduced, like that of ancient Greece and pompous Rome, to a mere name in history.

S. SIMMS, *Hon. Secretary.*

Ben Vista, Antrim Road, Belfast.

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# REVIEWS

MODERN MEDICAL TREATMENT. By E. Bellingham-Smith, M.D., F.R.C.P., and Anthony Feiling, M.D., F.R.C.P. London: Cassell & Co., Ltd., 1931. Vol. I, pp. 701; vol. II, pp. 705. 30s. net the two volumes.

THE appearance of two fair-sized volumes of a work on Modern Medical Treatment reminds us of the rapid development of this subject in recent years. No longer do we confine treatment to good food and nursing with the inward exhibition of a drug. Heliotherapy, actinotherapy, hydrology, and electrotherapy all have a place, while endocrines, vitamins, antigens, and antitoxins have each found its practical application. This book discusses all these forms of treatment from an eminently rational point of view. Older methods which have long proved their value are discussed, whilst only those newer methods have been recommended that have been found useful in the personal experience of the authors. If a method has been tried and found wanting, they do not hesitate to say so, and it is just this personal touch throughout the book that makes it of such great value to the busy practitioner. The book is interestingly written, and characterised throughout by a sanity and breadth of vision seldom found in a work of this kind.

THE COMMONER NERVOUS DISEASES. By Frederick J. Nattrass, M.D., F.R.C.P. London: Milford, Oxford University Press, 1931. pp. 218; 15 figs.; 2 plates. 12s. 6d. net.

THE busy practitioner owes a debt of gratitude to the Oxford University Press for the publication of this very readable book. Written for the general practitioner rather than the specialist, it contains only the essentials of what is acknowledged to be one of the most difficult branches of medicine. The chapter which deals with the examination of the patient is a model of clearness and orderly thinking, while the chapters devoted to the different clinical entities are, with a few minor defects, just as well written. We are glad to see the appearance of a loss of sensation on the centre of the face given as an early sign of tabes, and the emphasis given to the profound differences between the mental sequelæ in children and in adults in cases of epidemic encephalitis. In discussing migrane, the author might perhaps have mentioned that approximately sixty per cent. of epileptics have a migranious heredity. He might also have emphasised the fact that epilepsy commencing after the age of 30 is almost invariably organic, and not idiopathic. These, however, are minor criticisms, and Dr. Nattrass is to be congratulated on the outcome of his labours.

DISEASES OF THE STOMACH. By Hugh Morton, M.D. London: Edward Arnold & Co., 1931. pp. 181. 10s. 6d. net.

MANY large books have been written on diseases of the stomach, but few general practitioners can find time to digest them. It is, therefore, a pleasure to find a small book on this subject discussing the most recent views on diagnosis and treatment in concise, clear, and simple language. This book is well proportioned, and bears throughout the mark of a wide personal experience. This is particularly seen in the sections devoted to treatment. There are a few well-chosen X-ray illustrations, and it concludes with a brief account of stomach function tests. The general practitioner, for whom the book is primarily intended, should find it of great value.

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