

*Symptoms of Septicaemic Infection.*

The train of events is as follows: The operation is performed on a child on the third, fourth, or fifth day. In some cases nothing but drainage of an abscess is undertaken with as little disturbance as possible; in others the appendix is removed; but in all the infection has already spread beyond the appendix, causing inflammation of the surrounding tissues or actual pus formation.

For the first thirty-six hours, or perhaps a little longer, the child seems to be doing well and all the symptoms are satisfactory. The temperature is often normal, pulse slower than before the operation, abdomen flat, no pain or vomiting. The child usually sleeps well for the first night, and everything appears to be satisfactory. Then a rapid and almost sudden change for the worse takes place; the face becomes pale, the pulse rate commences to rise, the temperature is usually subnormal, the child becomes restless and irritable (this is a very marked feature), then drowsiness with restless intervals supervenes, and an occasional shrill "meningeal" cry is uttered which is very characteristic; in fact, all the symptoms are of a cerebral type—the pupils become dilated; coma with a rapidly rising temperature is followed by death, generally within thirty-six hours of the onset of the symptoms. The clinical picture is a very tragic and striking one, and in each case which I have seen in my own practice or that of others the symptoms have been practically identical.

*Post mortem* nothing is found to account for death. There is no peritonitis, nothing abnormal in the site of operation, no sign of meningitis.

When my attention was first drawn to these cases, about thirteen years ago, I gave what I believed to be the true explanation of them, and further experience has strongly confirmed that belief. It is well known that patients suffering from appendicitis, even after perforation and abscess formation has taken place, may recover without surgical interference: this was more often seen in former years before operations were as commonly undertaken as they are at present and the disease was spoken of as typhlitis or perityphlitis: the abscess perforated into a neighbouring viscus, generally the caecum, and the patient recovered. Operations, which were performed as a rule later than they are now, some time during the second week, when a large abscess was evident, were attended by little if any danger.

If the infection is very acute or the patient's natural resistance low, Nature unaided by the surgeon is defeated. The appendix wall sloughs and perforates into the general peritoneal cavity, causing a rapidly fatal peritonitis and toxæmia. Nature has had no time to mobilize her forces. But in other cases where the resistance is stronger or the virulence of infection less, and the poison is for a longer period confined to the appendix, toxins leaking through its wall set up inflammatory changes in the surrounding tissues, omentum, bowel, or parietal peritoneum. Before actual pus has been formed, a wall of plastic lymph has been thrown up, covering the surrounding inflamed tissues and shutting off the general cavity of the peritoneum, and at the same time sealing up the lymphatics and blood vessels in the inflamed tissues. It acts like the porcelain of a filter, allowing toxins to percolate through into the lymphatics and blood vessels but holding back the infective organisms—*B. coli* and streptococci. This is the first line of defence.

Its production gives time for the development of the second line, which I believe to be of very great importance—that is, the production of antibodies in the blood. The toxins soaking through the wall of lymph into the blood lead to the production of antibodies, which by the middle of the second week have produced a considerable degree of immunity. There is often at this time (if the patient has been allowed to reach this stage) a considerable improvement in the general condition—the temperature may fall to normal and the pulse rate diminish. The abscess, which is frequently a large one, may be opened without any danger, without even infecting the wound, which has been freely irrigated with stinking pus.

When an operation is performed during the middle of the first week the wall of lymph may be disturbed, or rubbed off, or may not have been properly formed, and a direct inoculation of infective material, containing *B. coli* or *S. faecalis*, into the blood stream may take place. This, after a short incubation period (twenty-four to thirty-six hours, or a little longer), is followed by the onset of symptoms due to septicaemic infection. If the operation is deferred to the second week the blood will have been rendered immune to this infection—the second line of defence will have had time to be mobilized, and these septicaemic symptoms do not appear.

If a case of appendicitis is seen early enough—during the first twenty-four hours—there is no question as to the proper treatment. The appendix should be removed at once. The

post-operative risk is practically nil, and no drainage is required. But if the case first comes to the surgeon at a later stage the right line of treatment is not so obvious, if the dangerous period from the third to the sixth day of disease is present. It might be wiser to wait for several days until the abscess has reached a fair size and the blood has become relatively immune to infection before operating. But there are dangers and disadvantages in delay. The abscess might burst into the general peritoneal cavity. The child is in pain and distress, the parents are anxious and expecting immediate relief by the surgeon. Should the case end fatally after all, the surgeon will be blamed for his procrastination. It is difficult, even if he so wishes, for the surgeon to withhold his hand.

It occurred to me that it might be possible by injecting a prophylactic serum before and at the time of operation and shortly afterwards, to produce an immunity for the time which would prevent or largely minimize the danger of blood infection at the operation if performed during the dangerous period. I explained my views to Dr. Ledingham of the Lister Institute, who discussed the matter with Dr. MacConkey, the bacteriologist in charge of the serum department. Dr. MacConkey very kindly arranged to immunize a horse with cultures of *S. faecalis* and *B. coli* provided from cases of mine, and last March sent me a supply of serum. Unfortunately I have not been able to test the value of the serum as a prophylactic sufficiently, and as in the meantime I have retired from active work on the hospital staff my opportunities have been lessened. But the serum is still available, and I hope, with the aid of surgical colleagues, to be able to give it a full trial, and publish a further report.

## REFERENCES.

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1910, ii, 103; *Lancet*, January 15th, 1921.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## HYPEREMESIS GRAVIDARUM.

THE following case presents certain features which appear worthy of record:

The patient, a young Jewish lady, had had three pregnancies terminated artificially on account of intractable hyperemesis. She was most anxious to have a child. She became pregnant towards the end of December, 1921, and vomiting began within a few days. She came under my care on January 3rd, 1922. Vomiting was persistent and salivation profuse. I began the line of treatment elaborated by Professor Harding of Toronto. I also administered peptone intramuscularly, having known a number of cases successfully treated by this method by a former partner; in one of these cases the uterus had been emptied twice on account of hyperemesis.

My patient was able to take no nourishment by the mouth except lactose. She improved steadily until on January 16th there was no vomiting and she partook of lemonade, bread-and-butter, and lettuce. Fruit and fish were soon added to the dietary. The condition remained satisfactory until February 14th, when bile was vomited and salivation became profuse. The bilious vomiting increased in frequency and amount, and on February 17th I called in a colleague who had attended her in two previous pregnancies. He expressed great astonishment at her excellent general condition. The bilious vomiting continued with slight intermissions. On March 6th the nurse reported that there had been a slight vaginal discharge. This was brown in colour and odourless. The patient became somewhat restless, but the pulse rate was only slightly raised (90). On the following morning the condition was not improved and the pulse rate had risen to 110. I arranged a consultation with my colleague at the earliest possible moment. When we saw her the pulse rate was 130, and it was decided to empty the uterus, the patient, who was fully conscious, protesting vigorously. The operation was carried out under ether anaesthesia with all possible speed, continuous saline being administered. The heart failed rapidly, and death ensued some hours later.

There were no foetal products recognizable in the uterine contents. Albumin was at no time present in the urine, nor was aceto-acetic acid, but bile appeared in the last few days.

NORMAN WILSON, M.A., M.D., B.Ch.Cantab.

Port Elizabeth, South Africa.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

PROFESSOR A. V. HILL, Sc.D., F.R.S., who, as already announced, succeeds Dr. E. A. Starling in the Jodrell chair of physiology at University College, was educated at Blundell's School and Cambridge (Trinity College). He was third wrangler in 1907, and in 1909 took a first class in physiology in the second part of the Natural Science Tripos. He was University lecturer in physical chemistry from 1914 to 1919, and afterwards University lecturer in physiology. During the war he was director of the Anti-Aircraft Experimental Section of the Munitions Inventions Department and a member of the Inventions Committee. Since 1919 he has been professor of physiology in the University of Manchester.

The chair of physiology, King's College, is declared vacant; the salary is £800 a year. Applications, which must be received not later than May 19th, should be sent to the Academic Registrar, University of London, South Kensington, S.W.7.

The Senate will hold a reception for the sixth triennial congress of the Société Internationale de Chirurgie, which is to meet in London in July next.

The presentation for degrees will be held at the Royal Albert Hall, Kensington Gore, on Thursday, May 3rd, at 2.30 p.m. A programme of music will be provided by the Trinity College of Music.

### UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B. AND CH.B.—*Part I (Pathology)*: C. P. Allen, A. Ashworth, P. D. Barling, T. Bellis, E. C. Penn, T. A. Clarke, H. A. Cole, R. Cotter, E. A. R. Evans, M. Fisher, F. F. Fuller, G. A. Garrett, M. Godwin, W. J. Griffiths, L. F. Henry, F. C. B. Hinsbeeck, S. Howard, Enid M. Hughes, Bertha H. Irvine, R. C. Jones, E. Miles, D. H. Mills, J. R. Oddy, A. Oserovi z, E. R. S. Owen, P. Sirelitz, A. C. Terry-Thompson, J. J. du Toit, B. J. van de S. de Villiers.

*Part II (Public Health, Forensic Medicine, Toxicology)*: J. M. Brodick, G. E. Church, R. Y. Dawbarn, J. C. D. ummond, Clara M. V. Gleave, D. C. G. Haulon, W. F. Jones, T. S. King, W. J. Laird, C. Sharp, N. Weinberg.

D.P.H.—Doris M. Cassidy, E. R. Peirce, G. H. Potter.

DIPLOMA IN TROPICAL MEDICINE.—D. Basu, J. C. Cruickshank, Winifred I. Doherty, J. Elson, R. N. Raja, C. F. White.

Dr. J. C. Cruickshank has been recommended for the Alan H. Milne Medal.

### UNIVERSITY OF ABERDEEN.

THE spring gradnat on ceremony took place in the Mitchell Hall, Marischal College, on March 28th.

Among the recipients of the honorary degree of LL.D. were Sir George Makins, G.C.M.G., C.B., consulting surgeon to St. Thomas's Hospital, and Dr. William Mackie, Fellow and past vice-president of the Edinburgh Geological Society and a medical practitioner of Elgin.

The following were the principal prize winners in the Faculty of Medicine:

Fife Jamieson Memorial Gold Medal in Anatomy: W. Marshall. Keith Gold Medal for Systematic and Clinical Surgery: A. Lyall. Shepherd Memorial Gold Medal for "The Principles and Practice of Surgery": R. R. Trail. Dr. James Anderson Gold Medal and Prize in Clinical Medicine, etc.: A. Lyall. Matthews Duncan Gold Medal in Obstetrics: W. Gunn. Alexander Ogston Prize in Surgery: W. J. Ogilvie.

### CONJOINT BOARD IN ENGLAND.

THE Committee of Management of the Examining Board in England of the Royal Colleges of Physicians and Surgeons has prepared a revised synopsis of the examination in pharmacology, practical pharmacy and materia medica, drawn up by the examiners. It will come into force at the examination in October next.

The Maudsley Hospital has been added to the list of hospitals recognized for instruction in mental diseases for the diploma in psychological medicine. It has also been decided that a candidate in Part II of the examination for this diploma who acquires himself well in either neurology or psychological medicine, but fails to pass in the other subject, may at the discretion of the examiners be allowed to present himself for re-examination only in the subject in which he failed. The regulations have been altered also so as to allow the appointment at an institution for mental diseases to be a whole-time appointment; hitherto the appointment must have been a resident one. The Manchester Eye Hospital has been added to the list of hospitals recognized for the diploma in ophthalmological medicine and surgery, and the Calcutta School of Tropical Medicine and Hygiene for six months' course of instruction for the diploma in tropical medicine and hygiene.

### Egyptian Medical School.

The examinations of the Egyptian Medical School and Hospital, Cairo, have been inspected by Mr. H. J. Waring, and on his report the Committee of Management has felt justified in recommending that the examinations and course of education should continue to be recognized by the Royal Colleges for another year. The Committee, however, proposes to make some recommendations to the Minister of Education of the Egyptian Government based on Mr. Waring's observations. The suggestions relate to the extension of the period of instruction in chemistry, physics, and biology with the subject of English, the cataloguing of the pathological museum,

the creation of additional house appointments, the provision of additional facilities for clinical pathological investigations, and the general administration of the Medical School. The Egyptian Government has expressed an intention to institute courses of instruction and examinations in the medical school conducted in Arabic, to be supplemented by courses given by the English professors in English. It is considered that the effect of this change will be to create two standards: (a) the course of study and examination in Arabic, and (b) a higher course of instruction and examination in English.

The Committee expressed the unanimous opinion that the Royal Colleges should definitely lay it down that the continued recognition of the school will be dependent upon instruction in all subjects of the curriculum being given in English concurrently with or supplementary to the instruction in Arabic, that the examinations to be recognized by the Royal Colleges shall be conducted in English only, and that courses of study and examinations in Arabic alone will not be given any recognition whatever.

The Committee's recommendations were approved.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—K. C. Chock, M. K. El Khadem, M. A. Lawson, M. Mo. W. Lopez.

MEDICINE.—M. A. Lawson.

FORENSIC MEDICINE.—G. K. Butterworth, M. Hawke, C. M. John, M. A. Lawson.

MIDWIFERY.—G. K. Butterworth, K. C. Chock, M. Hawke, H. Hirst, M. A. Lawson, H. M. White.

The diploma of the Society has been granted to Messrs. G. K. Butterworth, K. C. Chock, H. Hirst, M. A. Lawson, and H. M. White.

## The Services.

### ROYAL NAVY MEDICAL CLUB.

THE annual dinner will be held at the Trocadero Restaurant, Piccadilly Circus, W.1. on Thursday, April 19th, at 7.30 p.m. for 8 p.m. Members who wish to be present are asked to inform the Honorary Secretary, Royal Navy Medical Club, 68, Victoria Street, S.W.1, not later than seven clear days before that date.

## Medical News.

THE April course of museum demonstrations at the Royal College of Surgeons of England will commence on Friday, April 13th, at 5 p.m., when Sir Arthur Keith will demonstrate madder stained specimens illustrating the process of bone growth. On Monday, April 16th, at the same hour, Professor Shattock will give a demonstration of specimens illustrating repairs of fractures. The demonstrations, which are open to advanced students and medical practitioners, will be continued on Mondays and Fridays up till and including April 30th.

A COURSE (the sixth) of lectures and practical courses of instruction for a diploma of psychological medicine has been arranged at the Maudsley Hospital, Denmark Hill, S.E. The first part will begin on Tuesday, May 1st, at 2.30 p.m., when Sir Frederick Mott will give the first of eight lectures on the anatomy of the nervous system. Dr. Henry Devine will begin a course of eight lectures on psychology on Thursday, May 3rd, and Dr. Golla a course on the physiology of the nervous system on May 4th. The courses will be followed by practical instruction and demonstrations. The second part of the course will begin in October next. The fee for the two courses is 15 guineas, for each course separately 10 guineas. Further particulars can be obtained on application to the cashier, London County Council, County Hall, Westminster Bridge, S.E.1.

A COURSE of lectures for medical practitioners on mental deficiency, supplemented by a course of clinical instruction, will be held from May 23rd to June 2nd, under the auspices of the University of London Extension Board in co-operation with the Central Association for Mental Welfare. The course is intended more especially for those medical practitioners who are engaged as certifying officers to local authorities under the Mental Deficiency Act, 1913, as school medical officers or medical officers of institutions, or who are otherwise definitely concerned with mental defectives. The course will be based on the requirements of the syllabus for the University of London Diploma in Psychological Medicine, and the university will grant a certificate of attendance to those who attend the whole course. The fee is three guineas, and full particulars may be obtained from Miss Evelyn Fox, University Extension Department, University of London, South Kensington, S.W.7.

THE *Yorkshire Evening News* states that two gifts, each of £150,000, have been made to a fund for cancer research, for which an appeal is about to be issued. The sum to be asked for, it is stated, is two million sterling.

A SPECIAL post-graduate course of instruction in the work of school clinics and in diseases of children intended for school medical officers and others will begin at the London Hospital Medical College on Tuesday, May 1st. The fee for the course, which extends for three months, is 15 guineas. Further particulars can be obtained on application to the dean, Professor William Wright, London Hospital Medical College, Mile End, E.

ACCORDING to a Reuter's telegram from Stockholm the Swedish Government has authorized the Telegraph Board to transmit gratuitously to ships at sea of all nationalities medical advice from two Gothenburg hospitals, which is to be given free of cost. Requests for advice are to be made to the coast station at Gothenburg.

A SPECIAL penal meeting and the ordinary monthly meeting of the Central Midwives Board for England and Wales were held on March 22nd, Sir Francis Champneys presiding. It was announced that Dr. Griffiths and Dr. Jervis had been re-elected on the Board by the Royal College of Surgeons of England and the Association of Municipal Corporations respectively. The list of examiners submitted by the secretary was approved for the ensuing year.

MESSRS. WM. HEINEMANN (MEDICAL BOOKS), LTD. (20, Bedford Street, London, W.C.2), announce that for the future, commencing with Volume IV (May, 1923), they will publish the *Journal of Neurology and Psychopathology*.

DR. CHARLES H. PHILLIPS, for thirty-seven years medical consultant to the Bucknall Infectious Diseases Hospital Committee, has on the occasion of his retirement been presented by the committee officials and staff of the hospital with a microscope suitably inscribed. The Mayor and Corporation of Stoke-on-Trent have also presented him with an illuminated address.

AN experiment of some interest is being made by ladies who have established a Samovar Invalid Kitchen at 47, Upper Baker Street, N.W.1. The idea is to supply cooked foods suitable for invalids and special diets that may be ordered by the medical attendant. It is proposed to deliver within a radius of two miles.

SIR DAVID BRUCE, K.C.B., F.R.C.P., F.R.S., has been nominated by the Council as President of the British Association at its meeting next year in Toronto.

## Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Attilology*, Westrand, London; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Harclius*, Dublin; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate*, Edinburgh; telephone, 4361, Central).

### QUERIES AND ANSWERS.

#### THE TASTE OF POTASSIUM BROMIDE.

WE have received an inquiry as to the best method of disguising the taste of potassium bromide, especially when it is given to children, but it is not easy to give a satisfactory reply. According to Martindale's *Extra Pharmacopoeia*, syrup of ginger, liquid extract of glycerin, or preparations of rose or vanilla are among the best. Special flavouring preparations of glycerin to which the name of glyl and syl respectively are given are advised; a glyl flavoured with rose, or a syl flavoured with vanilla. The preparations mentioned amount to solutions of essential oils in glycerin or syrup respectively. In response to an inquiry as to whether he had anything to add to what is published in his book, Dr. W. H. Martindale mentions bitter orange and peppermint. Potassium bromide must not, of course, be taken in solid form, but it has been administered mixed with sodium chloride as a table salt to be taken with meals.

### INCOME TAX.

"E. C. T." inquires whether English people resident abroad for six months or more are allowed any remission.

\*\* Temporary absence from the country is dealt with in No. 3 of the General Rules (Income Tax Act, 1918), which provides that a British subject whose ordinary residence has been in the United Kingdom shall be charged to tax as a person residing in the United Kingdom if his absence is for the purpose only of occasional residence abroad. What "E. C. T." has in mind probably is the exemption of the foreign resident who comes to this country for a temporary purpose only, and does not stay six months in any one financial year.

### Allowable Expenses.

"D. McC."—The basis of assessment being the average profits of the practice during the past three years, what is required is a statement of the receipts and classified expenses for each of those years. Where the house used professionally is owned by the practitioner the amount to be treated as an expense is a reasonable proportion (for example, one-half) of the sum at which the rental value is assessed to Income Tax, Schedule A. The ground rent cannot be deducted in such a case, as it is included in the assessment.

### Car Transactions.

"W. P. H. M." bought a second-hand car in 1913 for £200 (original cost about £450, and at present, new, about £550) and sold it in July, 1922, buying a 12-h.p. at £595. The amount of the value renewed is  $£200 \times \frac{550}{450} = £245$ , and the claim must be restricted to that sum less £45 received—that is, to £200 net.

"J. C. G." bought in 1916 a 16 h.p. four-seater for £255, and during the last financial year a 12-h.p. four-seater for £395; the first car was then sold for £29. What its present cost would be is unknown. If it may be assumed for this purpose that the present cost of a 16-h.p. would not be less than £395, "J. C. G." is entitled to his actual out-of-pocket expenditure—that is, £395 - £29 = £366—as an expense of the "last financial year."

### LETTERS, NOTES, ETC.

#### PUERPERAL INFECTION.

DR. C. J. HILL AITKEN (Kilnabur, near Rotherham) writes: If any general practitioner on reading Professor Watson's article on treatment of puerperal infections (BRITISH MEDICAL JOURNAL, March 24th, p. 505) sighs and says, "It is too good to be true," I would refer him for confirmation to Shear's *Obstetrics, Normal and Operative* (second edition, 1920), page 704, paragraph 11: "The present tendency, and one with which I cordially sympathize, is to recognize that the majority of the cases of puerperal infection are self-limited and have a natural tendency to recovery, that surgical operations and intrauterine manipulations are seldom indicated, as a rule do more harm than good, and are to be undertaken only upon clear and definite indications."

#### A DISCLAIMER.

DR. JAMES SMITH (Schawfield, Falkirk) writes: Dr. J. B. Simpson of Golspie informs me that quite recently a man called upon him soliciting orders for a new work called *Modern Chemistry*, and calling himself Dr. James Smith of Falkirk. As the only registered practitioner of that name in this town I desire to say that I have not been north of Aberdeen for many years and have not canvassed for book orders at any time.

#### A CORRECTION.

DR. C. E. S. FLEMMING calls attention to a mistake in his letter on hospital policy in the JOURNAL of March 31st (p. 574). In the first line of the letter, for "Dr. Fothergill" read "Dr. Garratt."

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, and 40 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 108.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	...	...	0 9 0
Each additional line	...	...	0 1 6
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An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.