

attacks of diarrhoea for some weeks, and three reported alternating constipation and diarrhoea. In only one case was there a history of bacillary dysentery.

Treatment

All cases were given a five-day course of mepacrine 0.1 g. t.d.s. The stools were examined on three successive days after completion of treatment, and on all but two *G. lamblia* had disappeared. After a second course both were found to be clear. All cases were given a generous diet as soon as the diagnosis was established, and symptoms disappeared by the third day of treatment. The duration of stay in hospital was 14 days; limits, 9 to 41. The 41-day case was that of the officer mentioned previously. He had lost a great deal of weight and required building up. One other case, which had furunculosis as well as giardiasis, was in hospital for 31 days. Owing to the rapidly changing personnel of the station it was possible to follow up only two cases. One had recurrence of diarrhoea after nine months, but on this occasion the cause was bacillary dysentery, and no *G. lamblia* was found. The second had had recurrent diarrhoea for some months, but has been free for three months since his treatment.

Comment

With the exception of two cases all were admitted to hospital when the fly season was at its height. In 1944 seven cases came from one camp and seven from another. A large number of flies from the traps were examined, but no *G. lamblia* cysts or flagellate forms were detected.

It will also be noted that the description of the stools differs somewhat from that of Manson-Bahr (1943), except in two cases with long histories. It is possible that in the Army one gets the cases into hospital at an earlier stage than in civil practice, and this may explain the difference.

Summary

Twenty-one cases of diarrhoea believed to be due to infestation with *G. lamblia* are described. The percentage in relation to other diarrhoeal diseases is stated. Symptoms, physical signs, and treatment are discussed. Two cases have been followed up for a short period.

We wish to thank Major J. L. Dales, R.A.M.C., and Major M. Joseph, R.A.M.C., pathologists, for their examination of the stools; and Col. F. Cook for permission to publish this paper.

REFERENCES

- Brumpt, L. (1937). *C. r. Soc. Biol.*, Paris, **124**, 1040. (Quoted by Napier and Manson-Bahr.)
 Manson-Bahr, Sir P. (1943). *The Dysenteric Disorders*, p. 258, London.
 Martin, P. (1937). *Rev. Méd. Hyg. trop.*, **29**, 33. (Quoted by Napier.)
 Napier, L. E. Everard (1944). *Principles and Practice of Tropical Medicine*, p. 451, Calcutta.
 Ormiston, G., Taylor, Joan, and Wilson, G. S. (1942). *British Medical Journal*, **2**, 151.

Medical Memoranda

Giardiasis associated with Recurrent Rectal Haemorrhages

It may be of interest to record a case of giardiasis associated with the passage of large amounts of blood. Infestation with *Giardia lamblia* is common in Fiji, often symptomless, and in no other case have I found it associated with the passage of blood per rectum.

CASE HISTORY

The patient was a female child, 4 years old, of mixed Fijian and European descent. She first entered the Colonial War Memorial Hospital on March 13, 1944, with a history of fever, constipation, and weakness, and the passage of blood with the stools. She appeared a normal well-developed child, and general physical examination revealed no abnormality. At subsequent examinations there was a vague abdominal tenderness but no guarding. She remained in hospital till May 6, during which time the stools were persistently accompanied by the passage of blood. At times the blood was clotted, at times bright red, and mucus was often present. The stools were soft and pale, and frequently there was diarrhoea. Investigations made during the period March 13 to May 6 included five stools which were negative for worms and ova and cysts, and for bacillary dysentery. On April 12 the haemoglobin was 80% and the red cell count 3,100,000. Sigmoidoscopy revealed no

abnormality. The haemorrhages became less, her general condition improved, and she was discharged to the out-patient department.

She was readmitted on May 12 with a recurrence of blood-stained stools for three days before admission. Physical examination was again negative. Further investigations of the stools revealed the presence of *Trichuris* on May 18, and on May 27 heavy infestation with *Giardia lamblia*. Eight further stools submitted subsequent to treatment of the *Giardia* infection were negative for that parasite, though hookworm and *Trichuris* were afterwards found and treated. The Widal test was negative for *E. typhosa* on May 27, and barium enema and radiographs of the chest showed no abnormality of the large bowel or lungs. The anaemia was at its worst on June 1, with haemoglobin 60% and red cells 2,800,000. Apart from treatment of the anaemia the patient was given 3/4 grain of mepacrine hydrochloride three times a day for 5 days following the discovery of *Giardia* on May 27. This course was repeated after 10 days' interval. After the first course of mepacrine no blood was observed with the stools, and eight further stools were negative for *Giardia*.

The patient was discharged on June 22, 1944, her general condition having gradually improved since the course of mepacrine.

My acknowledgments are due to Dr. V. W. T. McGusty, C.M.G., O.B.E., Director of Medical Services, Fiji, for permission to publish this case.

GEORGE R. HEMMING, M.B., B.S.,
 Medical Officer, Colonial War Memorial Hospital.

Suva, Fiji.

Spontaneous Lobectomy

The description of a case of spontaneous lobectomy associated with *Bacillus friedländeri* infection by J. W. Taylor (*B.M.J.*, 1944, **2**, 500) has prompted me to put on record two further cases of this uncommon condition.

CASE I

A man aged 41 was admitted to Queen Elizabeth Hospital, Birmingham, on Feb. 3, 1942, under the care of Dr. A. Brian Taylor. He gave a history of two weeks' illness, beginning with a rigor and continuing with pain in the right side of the chest, cough with blood-stained sputum, dyspnoea, and pyrexia. He had been treated with sulphapyridine. On admission he was thin, dyspnoeic, looked ill, and had a temperature of 100°. Clinical examination suggested a moderately large right pleural effusion, more posterior than anterior. This was confirmed by radiographs, a lateral view showing a convex anterior border to the shadow. Aspiration produced thick brown foul-smelling pus, which on culture yielded a heavy pure growth of *B. friedländeri*. The sputum was purulent, and contained a heavy mixed bacterial flora with a marked preponderance of *B. friedländeri*. On Feb. 5 drainage of the empyema was performed under local analgesia, a portion of the 9th rib being resected. The cavity extended upwards and forwards and was limited below by necrotic tissue. Closed drainage was instituted for 12 days, and then open drainage, and pleural wash-outs were started. On the 18th day after aspiration, while a pleural wash-out was being performed, the patient had a fit of coughing, and through the sinus he coughed a piece of tissue corresponding in size to a large portion of the lower lobe. Although necrotic, its pulmonary structure was quite recognizable. Progress henceforward was satisfactory, and although the sinus continued to discharge for a few months it eventually healed and has remained dry. The patient is now back at work.

CASE II

A man aged 49 was admitted to this hospital on Jan. 25, 1944, under the care of Dr. A. Brian Taylor. He gave a history of "influenza" two months previously, followed by cough, high temperature, and delirium. He was treated with sulphapyridine and improved. Since then he had continued to cough, bringing up purulent sputum and complaining of pain in the left chest.

On admission he was thin and had a temperature of 101°. The percussion note was impaired over the left upper thorax, with diminished bronchial breath sounds. X-ray examination showed a fluid level in the left chest, rather anterior, at the level of the third costal cartilage. Paracentesis in the fourth space in the anterior axillary line produced creamy odourless pus which yielded a moderately heavy pure growth of *B. friedländeri*.

On Feb. 3 operation was performed under local analgesia. A portion of the 5th rib was resected in the anterior axilla, and foul thin pus was found and withdrawn. During this procedure a slough of necrotic upper lobe measuring about 10 by 8 by 3 in. came out, and a persistent bronchial fistula was left. Open drainage was instituted; 48 hours later a violent secondary haemorrhage occurred into the pleura and through the tube, and was accompanied by haemoptysis. A blood transfusion of two pints was given, and his condition improved. Some bleeding occurred at intervals for nearly two weeks.

The patient became afebrile and his condition gradually improved, although his cough continued for a time. Three weeks after drainage, radiographs showed in the opposite upper lobe an abscess cavity which had not previously been present, and sputum yielded a heavy nearly pure growth of *B. friedländeri*. This right-sided cavity became smaller and disappeared without any surgical intervention. The patient is now about and feels well, but still has a large sinus with a bronchial fistula. Pleurograms show an anterior apical cavity with several bronchial openings, probably into the pectoral and ventral branches of the upper-lobe bronchus, the axillary-apical bronchus appearing intact.

Comment

Two cases of spontaneous partial lobectomy are described, both associated with pure *B. friedländeri*, pneumonia, and empyema. One was in a lower lobe, and has proceeded to a satisfactory recovery. The other was an upper-lobe lesion, was followed by a violent secondary haemorrhage and by a transient abscess in the opposite upper lobe, and has recovered with a residual broncho-cutaneous fistula.

B. friedländeri appears to have some special ability to cause sloughing of the lung, perhaps through thrombosis of the pulmonary vessels.

I am indebted to Dr. A. Brian Taylor for permission to record these two cases.

D. R. HUMPHREYS, M.D., M.R.C.P.,
Resident Medical Officer,
Queen Elizabeth Hospital, Birmingham.

A Case of Third-generation Syphilis

The following report of a case recently encountered may be found of interest.

CASE HISTORY

The patient, a boy aged 14, was brought to hospital by his mother to see whether anything could be done to improve his gait. He had previously attended another hospital, where a W.R. was done but no lumbar puncture performed. The mother was then told that the boy was a congenital idiot, and should be sent to a mental home. No reference at all had been made to syphilis, and no further advice tendered to her.

The boy is the middle of three children, having an elder sister and a younger brother. His was a precipitate delivery, and he had been a weakling since birth. He was completely disinterested in life, and could read and write only with great effort. He could not dress himself, nor could he carry out his toilet unaided. He had never been able to walk properly.

Examination showed that the boy walked with a typically tabetic gait, due to spasticity of the lower limbs. There was slight sensory loss in both feet. The right pupil was dilated and did not react to light, while the left was normal and reacted to light. Both fundi were normal. There were no other signs of syphilis. The blood W.R. was positive. The C.S.F. findings were as follows: W.R., + + +; Lange, 5553210000; cells, 20 per c.mm.; total protein, 30 mg. per 100 c.cm.; globulin, increased.

Diagnosis.—The diagnosis was quite obviously that of congenital taboparesis. On investigating the rest of the family—the two other children, the father, and the mother—the only one who showed a positive W.R. was the mother. She avowed that she had never had syphilis, nor any treatment; but that both her parents had died as a result of the disease. This would indicate that she is herself a congenital syphilitic, even though she shows no signs, apart from that complacent facies which is so often seen. The father had been a blood donor for more than 25 years; it is therefore reasonable to assume that his blood W.R. has been negative all that time, and certainly during the 20 years he has known the mother. Both the daughter, aged 17, and the younger son, aged 12, show no signs of the disease, and are brilliant scholars. It can thus be stated that these three members of the family are, and always have been, free from syphilis; and should the mother have acquired it at all it would have been manifest in one or all of them. The evidence therefore shows that the mother is a congenital syphilitic who has given birth to a third-generation congenital syphilitic.

COMMENT

Third- and fourth-generation syphilis appears to be rare, and very difficult to prove. It is also evident that congenital neurosyphilis responds well to treatment, provided that the patient does not suffer from fits (see Nabarro, 1934). This is borne out by the progress of the patient, who after his first course of 10 weekly injections of 2 g. of tryparsamide and 0.2 g. of bismuth, showed the following C.S.F. changes: W.R., +; Lange, 0111000000; cells, 2 per c.mm.; total protein, 20 mg. per 100 c.cm.; globulin, slight increase. In addition to these changes, his general condition has improved dramatically. He can now dress himself, bath himself, and goes to school daily. He takes a general interest in life, and is always asking if he may go to the cinema or to see friends—things he had never done before. He asks questions about his treatment, whereas a few months ago he did not care.

The lesson to be learnt from such cases is that those which appear to be the most hopeless may be benefited by treatment. This of course raises the question whether they could be avoided by the administration of arsenic to all congenital syphilitics during pregnancy. Closer investigation into the histories of congenital syphilitics might show the disease to be commoner than is supposed.

Putney Hospital. C. J. V. HELLIWELL, M.R.C.S., L.R.C.P.

REFERENCE

Nabarro, D. N. (1934). *Proc. roy. Soc. Med.*, 28, 169.

Reviews

ANNUAL REVIEW OF PHYSIOLOGY

Annual Review of Physiology. Vol. VII. Editor, James Murray Luck; Associate Editor, Victor E. Hall. (Pp. 774. \$5.00 or 30s.) California: American Physiological Society and Annual Reviews Inc.; London: H. K. Lewis and Co. 1945.

The appearance of Volume VII of this *Review* almost coincidentally with the end of European hostilities will evoke from physiologists and those who wish to keep abreast with physiological literature an expression of gratitude for the boon this publication has been through the war years. The sense of misgiving for introducing a new publication into a world already burdened with scientific literature, to which the editors confessed in the preface to the first volume in 1939, must, indeed, have changed to one of duty as they became responsible each year for presenting their survey of physiological advances. The present volume, the largest yet published, contains 26 articles, compared with 19 in 1944, in which are reviewed almost 4,500 publications representing the work of over 4,000 investigators. It is clear that physiological work has not been at a standstill during the war years, although many of the reviewers in the introductions to their articles stress the diversion of interest from "pure" to "applied" physiology. The lifting to some extent of the security bans on publication during the past 18 months has permitted some of this applied work to be revealed. As an example of this tendency the review of "Applied Physiology" (J. H. Comroe and R. D. Dripps) is devoted to aviation medicine, fitness and performance, and resuscitation; and references to the various effects of anoxia appear in many reviews. Some of the excellent work on the effects of environmental conditions, such as heat and cold and the adaptation to, or protection against, them, is referred to in articles on "Water Metabolism" (I. McQuarrie) and the "Physiological Effects of Heat and Cold" (Allan Hemingway).

Apart from the emergence of war research the *Review* follows lines which have now become familiar. The advances in what may be regarded as the main divisions of physiology—e.g., respiration, digestive system, heart, blood, kidney, energy metabolism, endocrine regulation of metabolism and reproduction—during the past year are surveyed. But the choice of a fresh reviewer makes for an alteration in perspective from year to year—though here might be entered a caveat against the tendency, which shows in more than one instance, to revert to the "card index" type of review. The articles in the early volumes of the series were distinguished by their critical appraisal of the contemporary field and the adoption of a definite point of view by the reviewer. The four articles on neurophysiology—"Electrical Activity of the Brain" (F. A. Gibbs), "Conduction and Synaptic Transmission in the Nervous System" (G. P. McCouch), "Somatic Functions of the Nervous System" (M. A. Kennard), and "Special Senses" (J. M. D. Olmsted)—make a useful symposium despite the unavoidable absence of a fifth review on visceral functions of the nervous system.

Among articles on topics which are not reviewed annually the one on "Peripheral Circulation" (E. M. Landis) is likely to be of interest to clinicians for its sections on capillary permeability and vascular reactions to haemorrhage; while those on "Permeability" (S. C. Brooks) and "Physical Properties of Protoplasm" (W. Seifriz) signify the important role of the physical chemist in elucidating problems of cell physiology. "Exercise" (C. L. Taylor), while covering ground dealt with in some other articles, has a useful survey of "fitness tests."

It is impossible to do more than give an indication of the articles in this *Review* and their trend. To the physiologist who finds it impossible by his own reading to keep pace with the publication of individual papers in every section of the subject, or to the clinician who wishes to keep abreast with the latest advances in physiological knowledge and thought, this compilation is obviously indispensable.