PART III.

SPECIAL REPORTS.

REPORT ON MEDICINE.

By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I.; Physician
to the Royal City of Dublin Hospital.

I. DIAGNOSIS OF PANCREATIC DISEASE.

SLADDEN contributes an important critical review on this subject. He points out in the first place that ordinary clinical observation is seldom of use, but that deep-seated epigastric pain not controlled by taking food, and radiating to the left shoulder blade, is very common. Massive stools may also be observed, accompanied by wasting, anæmia, and tenderness over the middle of the right rectus muscle. Oxaluria is not regarded as important. The more important tests for pancreatic function are divided into :—(1) Tests of the external secretion, dependent on the presence or absence of ferments of the pancreatic juice ; and (2) Tests dependent upon other functions of the pancreas. The former includes :—(1) Duodenal intubation. This test is too disagreeable for general application : when used a positive finding is more important than a negative, *i.e.*—if trypsin be found it points to normal pancreatic function, but absent trypsin may be due to admixture with gastric juice. (2) Azotorrhœa. This requires careful chemical examination to determine, but there seems little doubt that azotorrhœa is a common feature of pancreatic disease. The finding of undigested muscle fibres (creatorrhœa) in the fæces is also suggestive. (3) Steatorrhœa, when accompanied by a low percentage of split fat, is strong presumptive evidence of pancreatic disease. Steatorrhœa by itself may merely mean biliary insufficiency or intestinal anomalies of absorption. (4) Estimations of trypsin, diastase and of lipase in the fæces may be made. Diminution of any or all of these points to

pancreatic insufficiency. Under the second heading are included (1) Glycosuria. As regards this it can only be stated that a lowered glucose tolerance suggests pancreatic disease. The Cammidge re-action and its modifications, though interesting, are not at present of diagnostic value. (2) A high diastatic value of the urine offers considerable presumptive evidence in favour of pancreatic disease, while a low or normal value, provided there is no renal disease, indicates a healthy pancreas. (3) Adrenalin mydriasis (Loewi's test) is in favour of pancreatic disease, and its ease of application makes it worth a thorough trial.—*Quarterly Journal of Medicine*, July 1914. Vol. VII. No. 28. Page 455.

II. PATHOLOGY OF CHRONIC HYDROCEPHALUS.

MARGULIS has made a careful anatomical investigation of some cases of chronic primary hydrocephalus, and finds that the cause of the condition consists of a hypertrophy of the ependyma, along with proliferation of the perivascular connective tissue and the adventitia of the vessels themselves. In inflammatory hydrocephalus inflammatory changes in the choroid vessels, in the ventricular wall and in the white substance of the cerebrum are found. In the primary cases the general periependymal gliofibrosis results in the formation of fibrous lamellæ which prevents the cerebro-spinal fluid from escaping and alters the elasticity of the wall itself. The condition is quite incurable, and is often associated with syringo-myelia, a disease which has as its basis an analogous histological formation.—*Archiv. für Psych.* Bd. 50. (1).

III. THE ACTION OF POTASSIUM AND SODIUM IODIDES ON THE VASCULAR SYSTEM.

MACHT reports some important investigations on the action of iodides on the heart and blood vessels. He finds :—(1) That the potassium ion produces a relaxation of the blood vessels and a marked depression of the heart; (2) that the sodium ion has a slight constricting action on the blood vessels and slightly stimulates the heart; and (3) that the iodine ion is a powerful stimulant to both

heart and blood vessels, but that this stimulating effect is greatly inhibited in the intact animal by the chemical combination of the iodine with the proteids of the blood. The action of sodium and potassium iodides is best understood from the action of their component factors. Sodium iodide has no depressing property, for the sodium ion is a stimulant and so is the iodine, in so far as it is free to act. Potassium iodide on the other hand clearly shows the depressing effect of the potassium ion on the heart and vessels, not only on isolated organs but also in the living animals. It is, therefore, not a matter of indifference which of the iodides is to be chosen for depressing the circulation. Furthermore, as far as this evidence goes it is not the iodine that acts but rather the potassium, and the effect could probably be produced even more efficiently by other potassium salts.—*Johns Hopkins' Hospital Bulletin*, Sept. 1914. Page 278.

IV. A NEW TEST FOR INDICAN.

JOLLES describes the following new test for indican. Take 10 c.cm. urine and add to it 2 c.cm. of a 20 per cent. solution of sugar of lead. Shake well and filter. To the filtrate add $\frac{1}{2}$ c.cm. of a 10 per cent. alcoholic solution of thymol, 10 c.cm. of hydrochloric acid containing iron chloride (Obermeyer's reagent), and 4 c.cm. of chloroform. Shake well and allow the chloroform to settle down. If indican be present even in minute quantity the chloroform will assume a beautiful violet colour.—*Zeits. f. physiol. Chemie*. Bd. 87. H. 4. S. 310.

V. BACTERIA FOUND IN MILK HEATED TO VARIOUS TEMPERATURES.

FORD and Pryor publish their investigations on this subject and formulate the following conclusions:—(1) Milk always contains the heat-resistant spores of aerobic and anaerobic bacteria, which by their development can give rise to disagreeable, unwholesome, and as an article of diet, dangerous changes in the milk. The aerobic most constantly present is the *Bacillus aerogenes* capsu-

latus. (2) These changes take place in milk heated to any temperature from 65° C. to 100° C., and kept at any temperature from 22° C. to 37° C., but not at that of the ice box, 4° to 6° C. The spores, however, survive in milk for long periods, even when kept on ice, and can initiate the changes referred to when the temperature of the milk is changed. (3) In heating milk there is a danger zone ranging from 65° C. to 85° C. Between these temperatures the lactic-acid-forming bacilli are destroyed, and hence the inhibiting action which these bacilli exert on the harmful spore-forming bacteria is removed. Further, clotting of milk is really a protection to the milk consumer, because the fact of clotting and turning soon indicates that the milk is not fresh and is to be avoided. The safest milk is that which has been boiled for 10 to 30 minutes, and has then been kept on ice. In such milk the organisms giving rise to explosive and putrefactive changes are destroyed. (4) It is however essential that milk heated from 60° C. to 100° C. should be kept on ice, since heated milk is far more liable to decompose than new milk.—*Johns Hopkins' Hospital Bulletin*. Sept. 1914. Page 270.

VI. SYPHILIS OF THE STOMACH.

MEYERS records a case of this which had come under his own observation, and tabulates fifty-eight other cases from the literature. He points out that syphilis of the stomach may appear in three forms—(1) as a syphilitic ulcer; (2) as a gumma; (3) as a diffuse gummatous or fibrous infiltration. Combinations of the above may also be seen. The disease may be congenital or acquired, and is most common in men of about middle age. Multiple foci in other organs may be present. The symptoms are not distinctive, but the following are suggestive when a positive Wassermann test is obtained:—(1) Pain immediately after food. (2) Dilatation of the stomach. (3) Pain on pressure over the stomach. (4) Gastric hæmorrhage.—*Intern. Beiträge z. Pathol. u. Therapie d. Ernährungsstörungen*. Bd. 4. S. 432.

VII. AGGRESSINS IN APPENDICITIS.

A. D. GARDNER defines the term aggressin as any substance formed in the process of bacterial growth which aids the organisms in their attack upon living tissues. As a result of numerous investigations he concludes that : (1) Aggressiveness is the direct consequence of a profuse multiplication of bacteria. The greater the number of bacteria, the more likely is the fluid to act aggressively. (2) Early exudates therefore (first twenty-four hours) are never aggressive. (3) Aggressive substances are nearly always present in pus from appendicular abscesses, and they do no harm so long as the abscess wall remains intact. But they may play an important and dangerous part when a channel of communication is formed between the abscess cavity and the general peritoneum. (4) In spreading or already diffuse peritonitis, the formation of aggressive bodies, signifying as it does great bacterial activity, marks the onset of a graver stage of the infection. (5) A consideration of aggressins, their origin and their action, suggests that a discriminating use of bactericidal chemicals may be of great value in the surgical treatment of peritonitis. In ether and colloidal silver we have two such bodies which have undergone a successful trial.—*Quarterly Journal of Medicine.* July 1914. Vol. VII. No. 28. Page 339.

VIII. SPLENECTOMY IN MALARIA.

KOPYLOW holds that splenectomy is indicated in malaria in the following circumstances :—(1) In splenic tumours with torsion of the pedicle. In these cases the operation is one of surgical urgency and must be undertaken to avert a fatal result. (2) In cases of very large floating spleens. Under these circumstances the operation is comparatively easy, and averts torsion of the pedicle and other serious accidents. (3) In cases of very large, painful spleens, as in these cases medical treatment is unavailing. As contraindications he mentions severe cachexia, dropsy with dilated heart, anæmia with hæmoglobin under 40 per cent., atrophic cirrhosis of the liver, and the existence of strong adhesions binding the spleen to stomach or dia-

phragm. The operation consists of opening the abdomen, ligaturing the pedicle, separating adhesions, and delivering the tumour. He believes that the operation will be practised much more frequently in the future than in the past.—*Archiv. für. klin. Chir.* Bd. 101. H. 3.

IX. URTICARIA FOLLOWING SALVARSAN INJECTIONS.

LIER reports two cases in which a very intractable urticaria developed after several intravenous injections of salvarsan. The strong probability of the salvarsan being the causative agent was shown by the prompt exacerbation of the disease produced by the injection of very small quantities of the drug. On the other hand, injections of neosalvarsan were without influence. In neither of the patients did the disease show the least response to the usual curative measures.—*Wiener med. Wochenschrift.* 1912. No. 46.

X. VACCINES IN TYPHOID FEVER.

RAYNAUD and others report the results obtained during the course of a year by treating typhoid patients with Besredka's sensitised living typhoid vaccine. Altogether they observed thirty-seven cases. At first two injections of one and two cubic centimetres respectively were given at an interval of eight days. Later the injections were increased to three and four given at three day intervals. The injections were always well borne and did not temporarily increase the symptoms of the fever, but produced a decided local reaction. All of the thirty-three cases recovered, but the length of the sickness varied a good deal. When the injections were started, in the first five days the fever ended quickly; the average duration of the sickness was twenty-four days in cases in which the treatment was started between the sixth and the tenth day. In a similar epidemic the mortality in non-vaccinated cases was over 8 per cent., while the relapses were 9.7 per cent. against 5.4 per cent. in treated cases. The bactericidal power of the serum in treated cases was much stronger than in non-treated cases.—*Comptes rendus.* 1912. D. 2.