

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

438 Enteric Fever in the Inoculated

J. GADRAT (*Progrès Méd.*, September 5th, 1931, p. 1556), who records an illustrative case, states that the occurrence of enteric fever in the inoculated depends on three factors—namely, the environment, the date of inoculation, and the method by which it is performed. In the class of typhoid patients usually met with in hospital the number of those previously inoculated ranged from one-eighth to one-eleventh of the total. In the army, on the other hand, enteric fever in the inoculated is rare, except in war time, when fatigue and the consumption of contaminated water favour the opportunities of infection. As regards the date of inoculation, the disease is liable to be contracted under two conditions: firstly, when the inoculation has been performed only a short time before, and secondly, when the interval has been too long. Lastly, the disease is much more likely to occur after ingestion than after subcutaneous injection of the vaccine. In the immense majority of cases enteric fever in the inoculated is attenuated, of short duration, and of good prognosis. Its occurrence can be explained by the non-development of an allergic state, and not by the failure of preventive inoculation. It is therefore advisable to test for the presence of an allergic state by the intradermal inoculation of typhoidin, which is a glycerinated filtrate of a typhoid culture; a positive reaction indicates that immunization had taken place. In cases in which the reaction is negative the inoculation should be continued until a positive result is obtained.

439 Amoebic Dysentery Carriers

R. GRASSO (*Il Policlinico, Sez. Prat.*, September 28th, 1931, p. 1425) examined the faeces of 60 patients in the medical clinic at Catania who were suffering from various diseases, mostly of a non-alimentary character, and found *Entamoeba histolytica* in 21 cases, or 35 per cent. In the majority of cases (17) the vegetative forms only were found, and only four showed the cystic forms of the organism. None of the amoeba-carriers had ever suffered from any marked degree of intestinal disturbance. Of the 21 patients, 15 had various affections of the respiratory tract, and ten of the latter were suffering from acute or chronic pulmonary suppuration. Grasso also made collateral investigations among the families of three patients, and on examination of ten persons found that six were carriers of *Entamoeba histolytica*.

440 Decompensated Portal Cirrhosis

Presenting an analysis of 112 cases of portal cirrhosis, in all of which ascites was present, and which were studied at the Mayo Clinic, C. B. CHAPMAN, A. M. SNELL, and L. G. ROWNTREE (*Journ. Amer. Med. Assoc.*, July 25th, 1931, p. 237) discuss this condition from various standpoints. Snell deals with its clinical features, and gives in tabulated form the etiological factors, symptoms, and physical signs. Alcoholism was found to be the most common cause, and it was noted that practically all the known causes were preventable. Ascites was the most prominent symptom, and there was definite evidence of decompensated portal circulation. Gastro-intestinal disturbances were marked, and abdominal pain and discomfort were frequent. The development of a collateral circulation was a most striking sign, especially in long-standing cases. The diagnosis is usually easy, but if it is doubtful, tests of the hepatic function with bromsulphalein are of value; the reactions are usually positive in portal cirrhosis with ascites. The treatment outlined by Rowntree, Keith, and Barrier (mercurial diuretics, ammonium salts, and a special diet) was given to 84 patients, 80 per cent. of whom showed some response. Chapman points out that, though 84 of

the 112 patients died within 16 months of the onset of ascites, the average duration of life of these, and of those still surviving, is longer than has been previously reported, and that the prognosis is more hopeful than is usually considered. From an analogy with compensated and decompensated cardiac disease and nephritis, Rowntree believes that the treatment of portal cirrhosis should be instituted early, and be directed to the prevention of decompensation. His own method of treatment, and such surgical measures as omentopexy and the Eck fistula, are briefly discussed. He adds that, if decompensation has occurred, the methods of treatment here suggested are the best possible.

441 Toxaemia due to Spider Bite

J. B. BAYS (*Journ. Med. Assoc. of South Africa*, August 22nd, 1931, p. 529) records a personal account of the results of a spider bite. In his usual health he suddenly was attacked by complete anorexia and nausea, followed by a restless night and slight fever. Next morning he noticed a small yellow mark with surrounding erythema on the dorsum of his right foot; this had been caused by the bite of a spider. The redness and swelling, accompanied by considerable pain, rapidly spread up the calf of the leg to the knee; lymphangitis over the front of the thigh and swelling and tenderness of the femoral and inguinal glands ensued, accompanied by considerable constitutional disturbance. Numerous small bullae containing a pure culture of streptococci appeared on the calf; on the fifth day a profuse perspiration heralded a fall in temperature, and improvement in the general symptoms. Desquamation followed, and some swelling and tenderness were still present a month later. Treatment consisted of the injection of manganese butyrate, with glycerin and ichthyol applications, and the administration of as much liquid as possible by the mouth.

442 Acute Pulmonary Oedema in Measles

P. NOBÉCOURT and J. LEREBoullet (*Arch. de Méd. des Enf.*, August, 1931, p. 461), who record four illustrative cases in children aged from 4 to 7 years, one of which was fatal, states that pulmonary oedema—an unusual complication—most frequently appears at the height of the attack of measles. The onset is always sudden, being characterized by intense dyspnoea, rapid respiration and pulse, increased resonance of the chest due to acute emphysema, weak breath sounds, and numerous fine subcrepitant rales. Under appropriate treatment recovery ensues, but may be delayed by the occurrence of otitis or broncho-pneumonia. Treatment consists in venesection or wet-cupping of the thorax and lumbar region, hydrotherapy, the administration of cardiac tonics (of which ouabain in intravenous injections 1/8 or 1/4 mg. for five or six days is best), and continuous inhalations of oxygen.

443 Prophylaxis against Rickets

A. G. DE SANCTIS and J. D. CRAIG (*New York State Journ. of Med.*, September 15th, 1931, p. 1133), in a preliminary report from the paediatric department of the New York post-graduate medical school and hospital, record that five groups of children were observed over a period soon after birth till the end of the first year of life. All were given anti-rachitic treatment as follows: Group 1 received three teaspoonfuls of a good brand of cod-liver oil daily; Groups 2, 3, and 4 had ten drops daily of irradiated ergosterol, with vitamin D content of 100, 250, and 500 units respectively; while the children in Group 5 were given three tablets daily of a cod-liver oil concentrate, approximately equivalent, in rat units, to the dosage in Group 1. The children were carefully watched for signs of rickets; cases showing doubtful signs, or "congenital beading" of the ribs, were excluded from the series. The principal

signs looked for were beading, craniotabes, grooving, and epiphyseal enlargement. It is stated that the dietary conditions, though varied in the whole number, may be considered as being similar in the various groups. It was found that in Group 1, 97 per cent. of children were completely protected from rickets; the other groups, in order, showed 77 per cent., 81.5 per cent., and 92.25 per cent. respectively, of protected cases. It is concluded that, although the anti-rachitic value of irradiated ergosterol increases according to its vitamin D content, this value is less than that of cod-liver oil containing a smaller amount of vitamin D units to the daily dose. The chief impression drawn from the observation is that the greater efficacy of cod-liver oil is due to the presence of vitamin A as well as D, and that in the present-day enthusiasm for concentrated and synthetic vitamin compounds, the merits of well-proved natural products should not be overlooked.

Surgery

444 Ureteral Strictures

W. MULVEHILL (*Amer. Journ. of Surg.*, August, 1931, p. 256) considers that urethral stricture is a more common disease than is sometimes recognized. Some cases show pathological signs of ulceration with little scar tissue; others present earlier stages of inflammation. Some cases show a full and complete scarring when the blockage is almost entirely due to the contraction of the scar, and only slightly to the active swelling resultant from the inflammation. Pathological end-results of ureteral stricture are ureteral and kidney stasis with infections above the stricture. Conditions which may be due to ureteral stricture are hydronephrosis, essential haematuria, pyonephrosis, pyelitis, urinary calculi, and some medical nephritides. The causative factors in most cases of stricture are the common pyogenic organisms such as *B. coli*, the staphylococcus, and the streptococcus. Hematogenous infection from the appendix, tonsils, teeth, or gall-bladder is responsible for the majority of cases. The most important symptom is a dull aching pain, which is not definite or intense in character, and may occur in the lower right or left quadrant of the abdomen, near the umbilicus or higher in the back. Backache, frequency of micturition, and menstrual pain are other symptoms which may be present. Treatment by dilatation of the strictured ureter is an effective method of dealing with the condition, and has proved completely successful in 50 per cent. of cases, giving relief for varying periods in a much higher percentage of cases. Dilatations may be repeated if necessary.

445 Removal of Tonsils by Diathermy

A. L. FORSTER (*Med. Journ. and Record*, September 16th, 1931, p. 290) advocates the use of diathermy in the extraction of tonsils. Specific indications for removal are: recurrent attacks of tonsillitis, chronic enlargement, fibrosis, and infection; diseases of the pharynx, trachea, and bronchi; enlargement of the cervical glands; laryngitis with attacks of hoarseness; diseases of the ear, nose, and accessory sinuses; suspected or incipient tuberculosis; arthritis, synovitis, and neuritis; gastro-intestinal derangements, general debility, and neurasthenia. The advantages of the diathermy method are that it is safe, clean, and effective; it does not necessitate hospitalization or loss of work for the patient. No general anaesthetic is required. The procedure is rendered painless by the application of cocaine to the throat, and it is seldom followed by more than trifling discomfort. There is no loss of blood, which is an obvious advantage in haemophiles, or those suffering from any condition in which haemorrhage would be harmful. There is no danger of infection, since any effective material is destroyed at the first application; secondary infection is impossible, since there are no bleeding points, and there is no possibility of aspiration of infective matter into the lungs. Recurrent growth of the tonsil never occurs when the proper

technique is employed, since a sufficient number of applications for complete electro-coagulation can be made. There being no actual cauterization of tissue, no sloughing occurs, and there is no resulting mutilation of the throat. When the removal is performed in stages, four or five applications usually suffice, but both tonsils can be entirely removed at one sitting.

446 Diphtheria following Tonsillectomy

G. BISMUT (*Thèse de Paris*, 1931, No. 452) records eight cases in children, aged from 2 to 9 years, showing that diphtheria may take place a few days after removal of tonsils and adenoids when no preventive inoculation has been carried out. This occurrence is by no means rare, and the attack may be severe, partly owing to the difficulty of diagnosis, but mainly because of the rapid and early absorption of toxins by the operation wound. Children, therefore, should undergo preventive inoculation before being submitted to tonsillectomy and adenoidectomy. In the case of carriers a Schick test should be performed. If the reaction is negative the operation may be performed without any risk, but if it is positive, the child should undergo active or passive immunization.

447 Carcinoma in Osteomyelitis

That carcinoma may develop in old ulcers and sinuses has been known for many years, but has been little reported recently. E. B. BENEDICT (*Surg., Gynecol. and Obstet.*, July, 1931, p. 1) states that, though carcinoma is an extremely rare complication of osteomyelitis, only twelve cases having occurred in 2,400 of osteomyelitis at the Massachusetts General Hospital, the lesion is well defined, and important to recognize. In the twelve cases here recorded, the tibia was affected in eight, the foot in three, and the femur in one. Involvement of the jaw, humerus, or other scattered locations was not found. The complication is more common in males. In about half the cases, pain is a prominent symptom; not infrequently trauma has preceded the onset of the osteomyelitis. Usually surrounding the fistulous opening there is a cauliflower mass, easy of diagnosis; when the disease is deep-seated, its recognition is impossible until the osteomyelitic cavity has been explored and a biopsy performed, which should be done in all suspicious cases. Since the growth is ordinarily of the slowly developing epidermoid variety of low malignancy, and there is usually no metastasis in the groin, the prognosis is generally favourable. Treatment comprises prophylaxis, not permitting osteomyelitic sinuses to remain open indefinitely, and curative measures—namely, amputation in most cases.

448 Fat Embolism

B. M. VANCE (*Arch. of Surg.*, September, 1931, p. 426) describes fat embolism as a condition which occurs when a liquid oil enters the circulating blood, and is carried in globules large enough to obstruct the lumen of blood vessels in different parts of the body. There are two varieties of fat embolism: the pulmonary form in which the emboli obstruct the small blood vessels of the lungs, and produce symptoms of asphyxia; and the cerebral form in which the emboli enter the arterial circulation, block the arterioles in the organs, particularly in the brain, and produce symptoms referable to the central nervous system. The most general cause is some form of trauma, either to the adipose tissue or to the osseous system. In the latter case the trauma may be due to fractures, jarring of the skeleton, or orthopaedic operations. Trauma to the fatty viscera may also cause fat embolism. Most of the cases of fat embolism are either so slight that they do not cause symptoms, or so severe that death ensues in a few days from involvement of the lungs or brain. Fat embolism is therefore rarely diagnosed from clinical signs, and is most frequently discovered at the necropsy. There is no successful method of treatment; after the fat has entered the blood stream the result must be left to the natural defences of the body. The danger of the occurrence of fat embolism in the case of fractures can be lessened by the effective immobilization of the broken bones, which minimizes the passage of fat

into the venous circulation. In orthopaedic cases an Esmarch bandage may be used to obviate the transference from the operative site of an excessive amount of fat into the systemic veins. Severe fat embolism of the pulmonary type usually occurs in the first two days after the injury, and is referable to a marked obstruction of the arterioles and capillaries of the lung, with death from asphyxial symptoms. The emboli may pass through the pulmonary capillaries into the systemic circulation, and originate lesions in the brain, heart, and other organs. In this type of cerebral fat embolism death usually occurs in from two to seven days after the involvement of the nervous system.

449 Recovery from Generalized Streptococcal Infection

C. E. HAINES (*Journ. Amer. Med. Assoc.*, August 29th, 1931, p. 610) records a case, in a male infant aged 6 months, of peritonitis due to a haemolytic streptococcus and epididymitis secondary to streptococcal tonsillitis. Recovery followed laparotomy, but was delayed by the occurrence of purulent pleurisy which was treated by aspiration. Cultivation of the peritoneal and pleural pus showed the presence of *Streptococcus haemolyticus*.

Therapeutics

450 Treatment of Atophan Poisoning

K. EIMER (*Deut. med. Woch.*, September 25th, 1931, p. 1663) records the case of a man aged 52, who received large doses of atophan (118 grams in 41 days) on account of chronic rheumatism. During the treatment he became very ill; there followed severe jaundice, with tenderness and enlargement of the liver, and a rash which in places was definitely haemorrhagic. The urine contained bilirubin, and a trace of albumin, but no urobilin, tyrosine, or leucine. The faeces were pale, and contained no bile or hydrobilirubin. The coagulation time of the blood was somewhat increased (7 minutes), the bleeding time being normal. The van den Bergh test gave a positive direct reaction. During the period of serious illness the nitrogen excretion was very high (15 to 18 grams daily), denoting a marked breakdown of tissue proteins. As soon as the symptoms developed, atophan administration was discontinued, and 60 grams of dextrose and 20 units of insulin were given twice daily. Later on, duodenal lavage with magnesium sulphate solution was also instituted. The patient slowly recovered. The author mentions the serious outlook in these cases, as judged by the fatalities recorded. He believes that the energetic treatment used in this case was connected with the favourable result. The necessity for caution in the use of atophan, and particularly for frequent rest periods during treatment, because of the danger of accumulation, is also emphasized.

451 Pyrexial Treatment of Chorea

LUCY P. SUTTON (*Journ. Amer. Med. Assoc.*, August 1st, 1931, p. 299) records a case of the cure of chorea following accidental toxic pyrexia due to phenobarbital, prescribed as a sedative. A choreic boy aged 11 was speechless, helpless, and in constant violent movement. After eleven days the drug produced a generalized morbilliform eruption with moderate fever, but on one occasion the temperature rose to 106.4° F. After a few days the choreic movements diminished continuously, and in twenty-seven days the speech had become almost normal, the movements were only slight, and the boy gained strength rapidly. A week later he was free from all symptoms. He recovered from the drug intoxication without complications and remains well. Phenobarbital had been used previously in many cases of chorea with little benefit and without toxic symptoms, and it appeared that cure in this particular case was due to the fever. To solve this problem, daily intravenous injections of a mixed typhoid and paratyphoid vaccine were given to twenty-four choreic patients in a period of nearly two years, injections of malarial blood being considered too dangerous. The initial dose of vaccine was 0.2 or 0.25 c.c.m. A sharp

reaction followed; in one case the temperature was 107° F.; a smaller initial dose is therefore preferable. If the temperature rises to 105°–106° F., the same dose is repeated next day, and the third dose usually causes a feebler reaction. A dose of 2.5 c.c.m. has been given in the later stages. Rigors commence about twenty minutes after the injection, with malaise and increased choreic movements. The temperature reaches its maximum in two to four hours, and falls to normal in six to eight hours. When the temperature rises to 106°, 5 grains of aspirin are given. Cyanosis occurs occasionally, but otherwise no ill-effects have been observed. The course of the chorea is a guide to the continuance of the treatment; pyrexia of one week's duration usually suffices. The average duration of choreic symptoms after vaccine treatment has been eight or nine days, whereas the average duration in 63 cases not so treated was forty-seven days. The author considers that this treatment has been more satisfactory than any other.

452 Calcium in Diphtheria

E. KAESPER (*Arch. f. Kinderheilk.*, September 11th, 1931, p. 205), in addition to the early injection of antitoxin, recommends the administration of calcium in laryngeal diphtheria, where it is specially indicated owing to its action on the oedema of the larynx. He also commends it in the treatment of severe cases of diphtheria, accompanied by the presence of extensive membrane, collateral oedema, and swelling of the regional cervical glands. The earlier the calcium is given, the better the effect. In the acute stage 5–10 c.c.m. of the preparation of Sandoz was injected once or twice daily intramuscularly. After the acute symptoms had subsided, the calcium treatment was continued in the form of powders or tablets taken by the mouth. The action of the calcium is threefold; it dispels the oedema, is a cardiac tonic, and prevents or mitigates serum sickness.

453 Desiccated Whole-Hog Stomach in Anaemia

As the result of the administration of desiccated, defatted whole-hog stomach in fifteen patients, A. B. BROWER and W. M. STIMPSON (*Amer. Journ. Med. Sci.*, September, 1931, p. 319) conclude that this substance in adequate dosage is effective in producing a prompt and continued remission in cases of pernicious anaemia. A striking subjective improvement occurs in four or five days following the initial administration of the stomach powder; reticulocytosis reaches its peak in seven to nine days, after which the percentage of reticulocytes rapidly drops to the normal. Mild neurological symptoms, noted in eight patients, disappeared or were distinctly alleviated. The administration of dilute hydrochloric acid in association with the stomach powder is apparently unnecessary; stomach and liver therapy have eliminated the need for repeated transfusions. The optimum daily dose is 30 grams, and the daily maintenance dose is 10 grams. The powder may be given as a suspension in tomato (preferably) or any fruit juice. Occasionally patients may be found to respond more satisfactorily to stomach than to liver therapy. Subjects of advanced age may require larger doses than middle-aged ones. No aversion to the continued use of the desiccated stomach was noted, and the necessity of continuing treatment throughout the remainder of life must be impressed on the patient.

454 The Ketogenic Treatment of Epilepsy

C. BASTIBLE (*Irish Journ. Med. Sci.*, September, 1931, p. 506) reports a series of 29 cases of epilepsy, mostly of the grand mal type in adult females, which were treated for six months by the ketogenic diet, which is rich in fat, and poor in carbohydrate and protein. All these patients were so unmanageable as to be unfit to remain in their own homes. The typical daily diet was the equivalent of 2,128 calories; it included biscuits made from bran and "Carrigeen moss," an inexpensive seaweed found off the Irish shores, in order to enable the large amount of fat to be taken. In twenty cases there was a definite reduction in the number of fits, and complete cessation was induced in two by the end of the first

month. The addition of acid salts to the diet during the last two months, combined with some restriction of the fluid intake, seemed to have a definitely beneficial effect in still further reducing the number of seizures. In four cases presenting evidence of organic degeneration of the brain there was a substantially increased incidence of fits while the patients were on treatment. In several instances there were ketonuric interruptions, and a definite increase in the number of epileptic fits was noticeable when ketones were absent from the urine. Bastible considers that these results indicate that the ketogenic treatment, which is admittedly valuable in the epilepsy of childhood, is well worth more extended trial in the adult types of the disease, especially since all the other therapeutic measures are ineffective, and often cause definite organic degenerative changes to occur or increase. He adds that the diet should be continued for twelve months, even though the seizures have been controlled. The gradual return to a normal diet is made by first decreasing slightly the fat and increasing the protein, and then by still further diminishing the fat intake and adding a little carbohydrate in place of the saccharine previously employed. Epileptic patients should in any case avoid excessive amounts of carbohydrate, and keep their diet near the borderline of ketosis.

Radiology

455 Specification of X-Ray Quality

R. B. WILSEY (*Radiology*, October, 1931, p. 700) cites reasons for considering that tube voltage, the penetrometer scale reading, half value layer, effective or average wave-length, and the absorption coefficient, though all useful in themselves, are each inadequate as a general specification of quality of x rays. Thus the same effective wave-length, or absorption coefficient, can be produced by a wide range of combinations of tube voltage and filtration, but the corresponding radiations are not equivalent in their absorption and photographic effects. A homogeneity coefficient, derived from absorption data, can be used in addition to the absorption coefficient to define radiation quality more completely, but its determination is rather involved for routine purposes. Wilsey describes how the absorption curve ($\log I$ or I/I_0 , plotted against filter thickness) can be employed as a general specification of x -ray quality, being uniquely related to the spectral distribution of x -ray intensity, and discriminating more accurately than other methods of quality specification between different qualities of x rays. It distinguishes radiations having appreciably different degrees of absorption in tissues, and probably is sufficiently precise for quality variations differing measurably in biological or photographic effects. It is a simple form of expression, avoiding complicated calculations, and the principal characteristics of the radiation can be readily interpreted by inspecting the curve. Other methods of x -ray quality specification—such as half value layer, absorption coefficient, or effective wave-length, and homogeneity coefficient—can be derived from the absorption curve, and further research will probably indicate how additional information of value can be obtained from it.

456 Radiographical Diagnosis of the Pyelonephritis of Pregnancy

R. MAHON and R. GUICHARD (*Journ. de Méd. de Bordeaux*, September 20th–30th, 1931, p. 795) believe that a series of radiographs taken after the intravenous injection of uroselectan constitutes the method of election for exploring the urinary apparatus during pregnancy. It has the great advantage of being physiological, revealing the exact anatomical and functional conditions of the urinary passages without any artificial dilatation. The technique is simple; 70 to 100 c.c.m. of uroselectan (30 grams of the salt dissolved in 70 grams of water) is injected intravenously into the patient lying on the x -ray table. Radiographs are obtained after a quarter of an hour, half an

hour, one hour, and one and a half hours, respectively. Very little inconvenience is caused, and painful uterine contractions have never been observed in women near term. Results obtained from the comparison of normal pregnant women with those suffering from pyelitis showed that certain anatomical and functional modifications of the kidney pelvis and ureter occur in normal women; these may be dilatation, atony, or stasis. They are invariably more marked on the right side, and it is suggested that a foetal shoulder may be the cause of the compression. Such lesions would naturally favour the localization and development of bacillary infections, and therefore an examination with uroselectan does not eliminate the need for the usual bacteriological investigations.

457 X-Ray Treatment of Graves's Disease

O. SANDSTRÖM (*Nordisk Medicinsk Tidskrift*, May 23rd, 1931, p. 330) reviews the activities of Professor Forssell's institute, "Radiumhemmet," in Stockholm, with special reference to the 117 cases of Graves's disease admitted in the period 1918–28. Adequate after-histories were obtained in 92 of these cases; 43 patients completely recovered and became fit for work, while in 19 fitness for work with considerable improvement of health was achieved. There were 9 cases in which considerable improvement was effected without full capacity for work being restored. Twelve patients were neither better nor worse, and 7 had relapsed after considerable improvement had been effected. Two of the patients had died. X -ray treatment soon induces a subjective sense of improvement, but three or four months usually pass before definite objective improvement is demonstrable; the patients who recover completely usually take a year or two to lose all their symptoms. X -ray treatment does not, as has been suggested, spoil the chances of subsequent operative treatment by provoking adhesions; and provided that time is allowed for the hyperaemia of x -ray treatment to pass off, the surgeon will not be inconvenienced by it. The treatment occasionally increases the basal metabolism at the beginning, but the author has seen no case of prolonged disturbances of the metabolism traceable to this treatment. With regard to the comparative merits of x -ray and operative treatment, the field for the former would seem to be represented primarily by slight cases, and by those moderately severe cases in which it is possible for the patient to afford a treatment which takes long to be effective. Suitable for x -ray treatment are also most of the severe cases in which, for some reason or other, an operation is contraindicated. Some of these cases may be rendered operable by a preliminary course of x -ray treatment. The patient who refuses operation, or for whom other forms of treatment have failed, may also be recommended x -ray treatment.

Obstetrics and Gynaecology

458 Etiology of Endometrial Hyperplasia

The exact etiology of idiopathic uterine bleeding has not been determined, although a hypothesis of deficiency of the corpus luteum, first proposed by Schroeder, has been advanced. J. C. BURCH, W. L. WILLIAMS, and R. S. CUNNINGHAM (*Surg., Gynecol. and Obstet.*, September, 1931, p. 338) present an experimental analysis in which curetted material from 28 cases of prolonged uterine bleeding, and from patients with normal menstrual histories, was histologically examined; the effects produced by extracts of placenta and corpus luteum in spayed mice were also studied. The outstanding facts which correlate the menstrual cycle of the human with the oestral cycle of experimental animals are briefly reviewed. The results of this study indicate that each of the oestrin and corpus luteum hormones exerts a definite characteristic action on the endometrium. The histology of the endometrium in Swiss cheese hyperplasia closely resembles that found in animals injected with placental extracts. This hyperplasia is due to an excess of oestrin acting on the endometrium, and bleeding takes place without the formation

of a corpus luteum. The failure to ovulate is probably an important factor in the disease, closely connected with the hypophyseal function. Extracts of corpus luteum might benefit this condition. In cases with mixed effects, it is possible to determine histologically which is predominant. Material from the follicular cysts of human cases of hyperplasia produced oestrus in mice and rats; the uterine changes in each case were very similar to those found in the animals.

459 Detection of Early Cervical Cancer

HAMANT and KOENIG (*Gynéc. et Obstét.*, September, 1931, p. 299) review the social methods which can be adopted in order to discover cancer of the cervix in its early stages. The perfecting of surgical technique and treatment by radium and x rays permit a high percentage of cures, but unfortunately, some 50 per cent. of women do not seek advice until the lesion is already well advanced. Analysis of the causes of delay between the appearance of the initial symptoms and the diagnosis and treatment shows that patients postpone obtaining advice from ignorance or fear; medical practitioners too often make an insufficient examination; and midwives, through ignorance, perform illegal operations, causing trauma, and give unwise reassurances. Emphasis is laid on the importance of the complete vaginal examination with speculum; if there is the least suspicion about the presence of malignancy, tissue should be removed for histological examination. A purely symptomatic anodyne should never be given in doubtful cases, or without complete examination. Midwives should be instructed in the schools, and in special courses, with regard to the danger of giving gynaecological advice, and it is added that the same applies to chemists. Periodical examinations of women would reveal some early cases of uterine cancer, and might well be systematized. Special watch should be kept in cases of abortion; metritis should be treated. The authors describe a scheme of co-ordinating existing gynaecological and cancer clinics with public health institutions and special preventive centres. They add that more needs to be done to suppress charlatanism and promote education of the public in the prophylaxis of malignant disease.

460 Clinical Features of Pelvic Endometriosis

T. CUIZZA (*Riv. d'Ostet. e Ginecol. Prat.*, August, 1931, p. 328), while conceding that no sign or symptom is pathognomonic of intrapelvic endometriosis, holds that a pre-operative diagnosis is sometimes possible. The most constant symptom is dysmenorrhoea, experienced secondarily in adult life. It is very severe, and very resistant to treatment, and is sometimes accompanied by vomiting or rectal or vesical tenesmus. With cessation of the flow, the pain, which has not diminished previously, vanishes abruptly. A moderate degree of menorrhagia is usual, and married patients report dyspareunia. The uterus is somewhat enlarged and has a highly characteristic soft, elastic consistence; it may be retroflexed and may contain one or more myomata. When the ovaries are the site of endometriosis they are found to be moderately enlarged, fixed, and tender. The pelvic connective tissue, especially in the pouch of Douglas, is rigid, although nothing in the history or present signs points to pelvic inflammation.

461 Tuberculosis of the Genitals

B. WALLER (*Zentralbl. f. Gynäk.*, July 18th, 1931, p. 2215), who records a personal case, states that, according to the findings in the Anatomical Institute at Brünn, at least 2 per cent. of all diseases of the female genitals are caused by tuberculosis. The rarest form is isolated ovarian tuberculosis. As a rule all parts of the internal organs are affected, the tubes being most frequently involved. The cervix is very rarely attacked, since the mucous membrane is more resistant, and the os internum offers an obstruction to the extension of the process. According to Krönig the uterus alone is affected in 11 per cent. As regards age, the disease may occur at any period, but is commonest at puberty. Infection of the female genitals may be explained in three ways: (1)

haematogenous and lymphogenous infection, which accounts for the majority of cases; (2) direct and continuous spread of the infection from the peritoneum and urinary system; and (3) cryptogenic infection. In such cases tubercle bacilli are introduced by the semen, or by injuries to the vagina. Waller's patient was a woman, aged 47, who was sterile although she had been married for 25 years; she was suffering from metrorrhagia. Curettings of the uterine mucosa contained necrotic tissue and typical Langhans's giant cells. Laparotomy revealed advanced tuberculosis of both Fallopian tubes; these were removed, together with the uterus, which showed signs of specific endometritis. The patient made a good recovery, and had gained 6 kilos in weight when seen three months after the operation.

462 Thyrotoxicosis Complicated by Pregnancy

Discussing thyrotoxicosis complicated by pregnancy, A. J. FLEISCHER (*Amer. Journ. Obstet. and Gynecol.*, August, 1931, p. 273) states that this form of hyperthyroidism may be entirely secondary to the pregnancy, or a latent case of the disease may be suddenly activated by the growth of the foetus. A case is reported in which the patient, a 2-para, dated back her history of thyroid disease to the commencement of puberty. This thyroid syndrome, which was at first very mild, became alarmingly intensified during the first pregnancy. It recurred during the second one, and, owing to the progression of unfavourable symptoms, pregnancy was terminated at 8½ months by laparotrachelotomy. The opinions of Beck and Seitz on this condition are cited. Fleischer deems the following as essential in the ante-partum care of pregnant women suffering from Graves's disease: absolute rest, sedatives being given if necessary; improvement of the hygienic conditions; and dietetic correction, proteins being excluded as much as possible. Where labour is spontaneous, shortening of the second stage by forceps is advised. Where it becomes necessary to terminate pregnancy as an emergency measure, the best procedure is laparotrachelotomy under spinal anaesthesia, preceded by morphine and scopolamine. Cases of hyperthyroidism so severe as to require emergency measures should also be sterilized.

463 Squamous Epithelium and Mucous Cervical Polypi

G. MOGLIA (*Ann. Ostet. e Ginecol.*, June 30th, 1931, p. 681), from examination of seventy-two mucous polypi of the cervical canal, concludes that metaplasia is a causative factor that plays a considerable part in epidermatization of the surface, which was present in fifty cases. This metaplasia begins in those cells of the cylindrical epithelium (of the surface or of the glands) which are just within the basement membrane. The squamous epithelium, thus formed, is found in multiple unconnected islets from which mitoses are absent. Metaplasia may extend along the cervical canal, so that after the removal of a polypus it is prudent to scrape its site of insertion, and the endocervical mucous membrane.

464 Limitations of X-Ray Therapy in Pelvic Tumours

J. C. BLOCH and BROSIÒ (*Bull. Soc. Obstét. et Gynéc. de Paris*, July, 1931, p. 517) describe a case which illustrates the histological changes which may be produced in an ovarian cyst by exposure to x rays. The patient, aged 60, had suffered from menorrhagia for six years. Brosiò found a voluminous pelvic tumour, which he diagnosed as a fibroma, and advised operation. The patient refused consent, and a radiologist gave her a course of radiotherapy. At the end of four months the haemorrhage had completely ceased, but other troubles continued and increased. The patient was obese, had varicose veins, and suffered from alternate dysuria and polyuria with chronic fatigue. A year later Brosiò found that the tumour had increased in size and was now fixed. Bloch performed a supravaginal hysterectomy, and the patient made a good recovery, except for some trouble from vascularization of the skin round the scar, attributable to the x rays. The tumour proved to be a bilateral ovarian cyst, particularly noteworthy because of superficial vegetations which partly covered the cyst on the

right side. Histological examination showed that these vegetations appeared benign, but their presence necessitated a guarded prognosis. Bloch suggests that they were caused by the x -ray treatment, and concludes that, when there is any doubt in the surgeon's mind whether a fibroma or cyst is present, an operation should be advised; x -ray treatment should not be offered as an alternative. Radiotherapy in such a case is at least a risk, and serves no good end. In addition, a train of disorders, such as adhesions, cutaneous troubles, and vegetations, may be produced. X rays should only be used when the diagnosis of fibroma is precise and certain.

Pathology

465 Mode of Action of Anti-tetanic Serum

Though the prophylaxis of tetanus is sufficiently assured by subcutaneous injections of anti-tetanic serum, the curative efficacy of this method of administration is not unanimously accepted. S. MUTERMILCH and MILLE. E. SALAMON (*Ann. de l'Inst. Pasteur*, September, 1931, p. 277) relate a series of experiments on rabbits which prove that meningeal injections (intracerebral or sub-arachnoid) are far superior to those made by the subcutaneous and intravenous routes. This method, first advocated by Roux and Borrel, not only causes a local production of specific antibodies, but also ensures their appearance in the blood in larger amounts than by other measures. These meningeal injections are well tolerated. The addition of tetanic anatoxin to the serum is most beneficial; it produces an immediate neutralization of the toxin by the antitoxin, and a rapid active immunization of the organism. According to Dufour the injections are more active when given under chloroform anaesthesia. The mechanism of the favourable action of meningeal injections is discussed, three hypotheses being enumerated as regards the possible site of neutralization of the toxin; it may be effected in the subarachnoid space, the peripheral nerves, or in the cells of the central nervous system. The authors believe the last-named to be the site, and state that antitoxin, inoculated meningeally, acts in two ways: it is fixed immediately by the nerve cells and destroys the toxin *in situ*, and, being resorbed into the general circulation, it neutralizes the toxin fraction present in the blood.

466 The Transmission of Typhus Fever

R. E. DYER *et al.* (*United States Public Health Reports*, August 7th, 1931, p. 1869) describe an investigation designed to throw further light on the intimate association of the spread of typhus fever with the rat flea, *Xenopsylla cheopis*, the importance of which in this respect was clearly indicated by a systematic examination of wild rats trapped in Baltimore at typhus fever centres. White rats injected with endemic typhus virus were brought into contact with fleas of this species; about two weeks later six fleas were removed from the cage, emulsified in normal saline, and injected into two guinea-pigs. One guinea-pig developed clinically endemic typhus, and this strain was continued in guinea-pigs and rabbits for three generations. Similar experiments were then made with other rats and rabbits; guinea-pigs were successfully inoculated and developed typhus fever. The blood and organs in all cases were examined, and the specific agglutinins were always found to be present. Guinea-pigs which had recovered from an infection with an established strain of endemic typhus virus originally derived from a human case, and also guinea-pigs which had survived infection with endemic typhus virus isolated from rat fleas caught at typhus centres, were found to be immune to subsequent inoculations with the strains of virus recovered from infected fleas, and also to other strains obtained from rats. Careful repeated search of the cages and rats failed to show the presence of any blood-sucking parasite other than *Xenopsylla cheopis*.

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467 Two Forms of the Diphtheria Bacillus

J. S. ANDERSON, F. C. HAPPOLD, J. W. MCLEOD, and J. G. THOMSON (*Journ. Path. and Bact.*, September 1931, p. 667), working at Leeds, describe the existence of two forms of diphtheria bacillus. The one variant, which they call *gravis*, grows with granular deposit and pellicle in broth, has a flattened lustreless colony of irregular outline, and actively ferments dextrin, starch, and glycogen; it is associated with severe toxic cases of the disease. The other, which they call *mitis*, grows with uniform turbidity in broth, has a convex, partly translucent, glistening colony, ferments dextrin incoagulably, and has no action on starch or glycogen; it is associated with milder cases of the disease. A small proportion of intermediate forms with constant characteristics have been encountered. The differentiation of the two main forms is most easily accomplished on a special chocolate agar medium containing potassium tellurite, and made up with beef infusion that has been sterilized by filtration instead of by heat. In an examination of 100 cases of diphtheria, 63 were found to be due to the *gravis*, 35 to the *mitis*, and 6 to the intermediate type. It is significant that all the 11 fatal cases were associated with the *gravis* type, and that 14 out of the 17 cases showing paralysis were due to this type, the remaining three being due to the intermediate type. As regards virulence, *gravis* strains were almost invariably endowed with some degree of virulence, while *mitis* strains were not infrequently avirulent to guinea-pigs.

468 The Gonadotropic Hormones

The well-known divergent effects following injections of various extracts of the anterior pituitary lobe, placenta, and pregnancy urine have been ascribed to the presence of two hormonal factors, ρ_1 and ρ_2 . It has been assumed that they occur in varying proportions, and that both their relative concentration and their absolute quantity are concerned in determining the sequel; ρ_1 is considered to be responsible for the first phase of ovarian secretion. B. P. WIESNER and P. G. MARSHALL (*Quart. Journ. Exper. Physiol.*, August 12th, 1931, p. 147) discuss the properties and effects of the ρ factors, or gonadotropic hormones, and describe two methods (by phosphotungstic acid and alcohol precipitation) of preparing potent extracts containing them from the urine during pregnancy, and also from the anterior pituitary lobe and human placenta. It was found that prolonged injections of small quantities, or fewer injections of large quantities, of ρ factors inhibited the oestrous cycle in mature mice, while small quantities actually induced premature oestrus in immature animals. A theory is advanced to account for these phenomena, and various chemical properties, in accordance with the observations of other workers, are recorded. A comparison is suggested in this respect between them and the polypeptides. These factors are not destroyed by pepsin, but they are inactivated by trypsin.

469 Red Cell Sedimentation Rate in Gonorrhoea

E. KIENE and E. HAMMERSCHMIDT (*Wien. klin. Woch.*, August 7th, 1931, p. 1023), using the method and apparatus of Westergren, have studied the red cell sedimentation rate in 300 different gonorrhoeal patients who were classified in 5 groups: (1) slight chronic or abortive cases; (2) gonorrhoea without deep tissue inflammation; (3) cases complicated with lymphangitis and epididymitis; (4) patients with gonorrhoeal arthritis; (5) cases with gonorrhoeal myocarditis. It was found that, after excluding other diseases, the acceleration of the sedimentation rate in cases of gonorrhoea is proportional to the severity of the case; in abortive or chronic cases with only slight inflammatory symptoms there is no acceleration of the sedimentation rate. During convalescence the raised sedimentation rate returns to the normal value, though it is always possible for an acute infection to become chronic, or the patient to be a gonorrhoea carrier. The sedimentation reaction precedes the clinical determination of inflammatory processes, and serves as a therapeutic guide.