EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

607. Insulin and Blood Pressure.

R. STRISOWER (*Wien. Arch. f. inn. Med.*, October 10th, 1927, p. 429) has investigated the fall in blood pressure which occurs after injection of insulin but does not correspond with the diminution in blood sugar. He recognizes three classes of patients: those with hypertension associated with diabetes, those with essential hypertension, and cases of hypertension associated with renal disease. Ten observations in six cases of diabetes showed that the fall in pressure was between 48 and 15 mm. Hg. Though there was no definite correlation between this fall and the sugar reduction, a high percentage of blood sugar occurred in hypertonic cases. In seven cases of chronic nephritis the effect of injecting insulin was much less than in the other types of hypertension. The greatest fall in blood pressure amounted to only 2 to 5 per cent., and in these cases the difference between the degree of action of the pancreatic hormone on blood pressure and on the blood sugar content was greatest. In one case the blood sugar was diminished on two occasions by 33 and 36 mg., although the blood pressure fell only 5 mm. Hg. Strisower finds it difficult to explain these phenomena, but he suggests that the action of insulin is directly antagonistic to that of adrenaline, stimulating the vaso-dilator and paralysing the vaso-constrictor fibres. Other authors think that insulin stimulates the pneumogastric. It is also thought possible that insulin may have some action on cholesterin metabolism, and that cholesterinaemia is a cause of hypertension. The author concludes that whatever hypothesis is accepted, the fact remains that insulin has but little effect upon nephritic hypertension. In a greater percentage of cases of pure hypertension a distinct fall in blood pressure occurred. It is probable that the pancreatic hormone has a central action comparable with those of the thyroid and pituitary glands.

608. Pseudo-appendicular Form of Lethargic Encephalitis.

G. CAUTIERO (*Studium*, October 20th, 1927, p. 374), who records an illustrative case in a man aged 29, remarks that lethargic encephalitis was characterized by Economo, who first described it, as a capricious disease owing to its polymorphous nature and irregular course. Cautiero's patient was a man aged 29, who was admitted to hospital with severe pain in the right lower abdominal quadrant, with tenderness at McBurney's point, and a temperature of 100.6°. A diagnosis of appendicitis was made and operation advised, but two days later symptoms of encephalitis appeared in the form of persistent insomnia, occipital headache, nuchal rigidity, diplopia, ptosis, strabismus, blurred vision, dysarthria, polypnoea, spasmodic cough, and myoclonic movements. The Wassermann reaction was negative in the blood and in the cerebro-spinal fluid, which was clear and under tension. The symptoms gradually subsided, and at the end of three months the patient appeared to have completely recovered. Cautiero attributes the abdominal symptoms to involvement of the nerve roots and peripheral nerves by the virus of lethargic encephalitis.

609. Poisoning by Barbitone Derivatives.

DARGEIN and DORÉ (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, October 27th, 1927, p. 1392) report a case of acute dial poisoning followed by recovery. A man, aged 25, was admitted to hospital in a comatose condition, with generalized fine tremors but no stertor. He had taken approximately 2.7 grams of dial about twelve hours previously. The neck was flexed by contracture of both sterno-mastoids. The corneal reflex was present and the pupils were slightly dilated, reacting well to light. The tendon reflexes were brisk; ankle-clonus was greater on the right side, the plantar reflex was flexor. Cutaneous reflexes were absent. There was retention of urine; a catheter specimen was normal. The cerebro-spinal fluid was normal. On the following morning there were contractures of the limbs and trismus, followed by convulsions with opisthotonos. The patient then fell into a deep sleep, but in the afternoon he awoke for fifteen minutes and answered questions rationally. He then slept for fourteen hours; the retention of urine and trismus persisted. Next morning he awoke as if from normal sleep and his memory was clear. The improvement continued, except for left hemicrania and earache; there was no sign of labyrinthine disturbance. He was discharged cured a few days later. The authors refer to another patient who recovered after a large dose of dial, and also to a patient who took about 7.1 grams of the drug with fatal consequences. In a fourth case a man, aged 36, swallowed 5 grams of veronal and 1 gram of dial. Half an hour later he was deeply comatose, and camphor, strychnine, and oxygen produced no change. Next day all the limbs were flaccid; the temperature rose to 106° and the respirations were 52. All reflexes were absent and the extremities were cyanosed. The pupils were contracted and there was corneal anaesthesia and enuresis. The heart sounds were weak and rapid; the cerebro-spinal fluid was normal. The patient died twenty-four hours after taking the drugs. At the necropsy generalized congestion of the central nervous system was found, especially of the meninges, with discrete haemorrhages throughout the brain. There was consolidation of the lower lobe of the right lung. Crystals of both drugs were recovered from all the internal organs and veronal from the cerebro-spinal fluid. Veronal predominated in all the organs examined, and the authors conclude that dial played only a secondary part in the poisoning. They cannot explain the rapid rise of temperature, apart from the extensive consolidation of the lung.

610. Epidemiology of Typhoid Fever in Country Districts.

D. G. GILL (*Journ. Amer. Med. Assoc.*, October 8th, 1927, p. 1198) remarks that though typhoid fever has been steadily decreasing throughout the United States it is still a major problem in the Southern States. Most of the cases are found in the small towns and strictly rural districts. The highest rates occur in towns with populations under 1,000, while 80 per cent. of the typhoid occurs in rural areas and towns with populations up to 5,000. The causes for the high incidence of the disease are said to be defective sanitation and water supplies, and the large number of typhoid carriers. Gill thinks that approximately 10 per cent. of those who have had an attack of typhoid fever become permanent carriers, and are probably the source of most rural typhoid.

Surgery.

611. Acute Haematoporphyria.

H. KUNTZEN and R. BECKER (*Deut. Zeit. f. Chir.*, November, 1927, p. 332), who record an illustrative case, state that haematoporphyria is a form of auto-intoxication by haematoporphyrin, which is closely allied to blood pigment and may occur normally in small quantities in human excreta. The acute attack of haematoporphyria sets in suddenly with extremely violent colicky pain and vomiting and more or less marked and persistent constipation. The colicky pains are caused by spasms which appear to be chiefly localized in the duodenum and uppermost part of the ileum, while the segment of the intestine above and the stomach are dilated. The pain is usually localized in the right hypochondrium or in the middle line between the xiphinsternum and the umbilicus, but it is frequently found in the right iliac fossa, or radiates diffusely into the hypogastrium, left hypochondrium, or back. The diagnosis at this stage is usually cholecystitis, gastric disease, appendicitis, pancreatitis, intestinal obstruction, or renal or ureteric disease. The vomit consists of mucus mixed with bile. Fever is absent or very slight. In contrast with acute inflammatory affections of the abdominal organs reflex distension is almost completely absent. On the day following the attack or on the same day the urine assumes a dark port-wine colour with distinct fluorescence, and the correct diagnosis is then usually made. The attack may last for several hours or even days. A single attack or a series of attacks may be followed by long intervals of complete health, so that the prognosis at this stage is relatively favourable. On the other hand, the appearance of nervous symptoms, such as paraesthesia, hyperaesthesia, neuralgia, and paralysis, is a very grave sign, and in 50 per cent. of such cases death ensues with symptoms of rapidly ascending paralysis. In most cases the course of the disease is very protracted, but some cases run a fulminating course, death occurring in a few days. The author's patient was a man, aged 59, in whom haematoporphyria was associated with haemochromatosis, cirrhosis of the liver, and carcinoma of the pancreas, with metastases in the liver. The case was thus closely allied with the group of symptomatic haematoporphyrinuria, but differed from it (1) by

the attacks resembling acute haematoporphyria clinically, (2) by the excretion of haematoporphyrin occurring not only in the urine, but also in abnormally large quantities in the faeces, and perhaps also by (3) slight indications of hypersensitiveness to light.

612. Avulsion of the Diaphragm.

W. A. BRYAN (*Surg., Gynecol. and Obstet.*, November, 1927, p. 688) reports the case of a man, aged 40, who, as the result of a traffic accident, suffered from avulsion of the diaphragm, followed by the passage of the stomach, omentum, and part of the large and small intestine into the chest. The diaphragm was torn from its attachment to the left chest wall for a distance of about ten inches, the free portion bending round the oesophagus and permitting swallowing, though vomiting was prevented. An anaesthetic was given, the viscera were returned to the abdomen, and the diaphragm was attached to the chest wall by through-and-through mattress sutures of catgut; but the patient died before removal from the operation table. Bryan discusses this unusual type of injury and doubts whether the artificial union of the diaphragm with the chest wall would have been sufficiently secure to withstand the tension imposed by coughing, sneezing, or heavy straining. He believes that the injury was caused in the following way: the lungs were filled with air, and, in anticipation of the impending compression between two vehicles, the man braced himself by tightening all the muscles of the body, including the diaphragm, which was torn from its attachment in consequence of the combination of traction, fixation, and shearing by the lower lobe of the compressed lung.

613. Fistula as a Complication of Peptic Ulcer.

R. T. MONROE (*Amer. Journ. Med. Sci.*, November, 1927, p. 599) reports a case showing a very rare complication of peptic ulcer—namely, a fistulous tract between the stomach and duodenum caused by the perforation of a chronic gastric ulcer. Only ten similar cases have been recorded, and these, according to Welch, demonstrate that gastro-duodenal fistulae are more frequent with the third part of the duodenum than with the first. In a review of the literature Monroe shows that the most common fistula due to peptic ulcer is the gastro-colic, though the ulcer may perforate other portions of the intestinal tract, as the jejunum and ileum. Welch has recorded fistulae between the stomach and gall bladder, and between the stomach and common bile or pancreatic ducts. Cases of perforation into the heart, pericardium, and portal vein, as well as of gastro-cutaneous and gastro-pulmonary fistulae, have also been reported. On the case now reported a cholecystectomy had been performed in 1919, and a diagnosis of chronic gastric ulcer then made. For six years the patient was free from distress, but symptoms then arising she returned to hospital for further treatment, when a gastro-intestinal radiological investigation revealed the presence of the fistula. The treatment given was rest in bed, small meals, and small doses of alkali. Cancer was thought improbable, and surgical intervention deemed unnecessary. The patient was discharged with the advice to take five small meals daily and alkali occasionally for any distress. A month later she was symptom-free and gaining weight. Monroe maintains that fistulae between the stomach and other internal organs or the body surface, though rare, are sufficiently common to warrant more notice than they have heretofore received, and calls attention to the increase in gastro-colic fistulae since the introduction of gastro-enterostomy as a treatment for gastric ulcer.

614. Omental Volvulus.

E. TROJÁN (*Zentralbl. f. Chir.*, October 22nd, 1927, p. 2705) refers to the rarity of intra-abdominal omental volvulus. Among 158 collected cases 140 occurred in a hernial sac, while only 18 (8.7 per cent.) were intra-abdominal. Troján's case was of the latter type, and the symptoms resembled those of acute appendicitis. A man, aged 24, was admitted to hospital with a definitely tender resistant swelling, as large as a fist, in the region of McBurney's point. The temperature was 100°, the pulse 120, and the leucocyte count 12,700. The probability of appendicitis was considered, although the extent of the swelling after twenty-four hours' duration was against this, as also was the fact that the patient had never before had symptoms of appendicitis. Two years previously, when engaged in gymnastics, he had discovered a swelling, the size of a hazel nut, in the right groin, which disappeared on pressure and did not recur after further exercise. On opening the abdomen a little blood-stained serous fluid appeared. The swollen omentum was deep red, with bluish patches, but did not resemble the appearance of the omentum in a case of appendix abscess. After shutting off the general peritoneal cavity with swabs, the omentum was brought forward, exposing the appendix, which lay free in the peritoneal cavity, although its apex was loosely adherent to the parietal peritoneum. The swollen inflamed right half of the omentum depended from a pedicle 3 cm. in thickness, which had been rotated through 360 degrees upon its axis. An area measuring 20 by 7 cm. showed suppurative and necrotic changes. The omental pedicle was clamped and divided and the appendix was removed on account of its apical adhesion; recovery was uneventful. Troján states that omental volvulus occurs most frequently in obese patients between the ages of 35 and 55. When it is intra-abdominal it may simulate cholecystitis, or appendicitis as in the present case. If an omental volvulus complicates hernia it may resemble internal incarceration or adhesions in the hernial sac, while, when the volvulus is actually in the hernial sac, it may simulate ileus.

Therapeutics.

615. Quinidine in Ectopic Rhythms.

C. W. BARRIER (*Journ. Amer. Med. Assoc.*, September 3rd, 1927, p. 742) considers that the dangers of quinidine have been exaggerated and that it is a useful remedy in all cardiac arrhythmias produced by circus movement. It acts upon the heart by mildly paralysing the vagus, lowering the rate of sinus impulse discharge, slightly decreasing auriculo-ventricular conduction, lengthening the refractory period of cardiac muscle, slowing its conduction, and lessening its excitability. Its therapeutic use depends upon its effect on circus movement, which it abolishes, and since such movement is the basis of all the arrhythmias quinidine has a theoretical value in their treatment. It is most useful in paroxysmal and transient auricular fibrillation and also in chronic auricular fibrillation, the groups with mitral fibrillation usually responding better than those with sclerotic fibrillation, patients with small hearts better than those with large hearts, and those who show coarse auricular waves better than those with fine waves. Idiosyncrasy should be tested by giving two 2-grain doses on the first day, three 6-grain doses on the second day, and increasing one dose a day until five doses of 6 grains are being given. Normal rhythm should ensue on the fifth day. Since the drug is rapidly excreted frequent small doses are better than large doses at longer intervals, and it should be continued at the minimal daily amount found necessary for continuing a normal mechanism for each individual patient. In selecting cases a competent myocardium is the criterion, and its use is contraindicated in the aged and in patients with marked hypertrophy, chronic heart failure, active endocarditis, or significant changes in the T waves or Q R S complexes of the electro-cardiogram. The dangers attending its use are respiratory paralysis, embolism, induction of ventricular tachycardia and fibrillation, failure of the sino-auricular node to function when circus movement is abolished, and the production of auriculo-ventricular block with depression of stimulus production below the block. Cases of auricular flutter, premature contraction, and paroxysmal tachycardia have also been benefited by the drug.

616. Treatment of Impotence in the Male.

C. JUARROS (*Arch. de med., cir. y esp.*, November 5th, 1927, p. 539), who remarks that male impotence is very frequent in Spain, probably as the result of masturbation, maintains that the treatment should always be made dependent on the cause of the condition, and that the routine prescription of aphrodisiacs is bound to end in failure. Success in treatment in the most favourable cases merely amounts to an action of reinforcement; even in sexual debility, which constitutes the first stage, the results do not merit any higher qualification. Juarros believes that cases of pure or psychical impotence do not exist: they are always the consequence of other conditions, whether local such as gonorrhoea, or general such as diabetes. Opotherapy is only likely to be of service when the impotence is due to endocrine disturbance such as hypothyroidism; in other cases it is disappointing. Other drugs act only as transient stimuli; they may solve the problem of the moment but do not effect a complete cure. The results obtained from electrical treatment do not justify its employment. Steinach's method seems to have more effect on the patient's general condition than on his potency. Psychotherapy is an excellent adjuvant, but nothing more.

617. Treatment of Typhoid Fever.

W. S. MAGILL (*Med. Journ. and Record*, November 2nd, 1927, p. 546) recommends that as soon as the diagnosis of typhoid fever is made an intravenous injection of 10 c.cm. of a 1 per cent. solution of mercurochrome (220 soluble) should be given, preferably in the morning with an empty stomach; it should be followed in twenty-four hours with a second injection of 20 c.cm. or less of the same solution if the reaction is severe.

Twenty-four hours later a third injection of 30 c.cm. should be given subject to the previous degree of reaction in each case and provided that there is no evident salivation. Blood should then be transfused up to 300 c.cm. from a carefully selected donor, who may or may not have been immunized twenty-four hours previously with the usual first dose of typhoid vaccine. The injection should be stopped at the first sign of reaction in the patient, since even such small amounts as 20 to 30 c.cm. of blood often cause considerable improvement. Blood count control is a valuable aid in determining the opportunity and time for successive transfusions, which should be continued until complete convalescence is assured. If immunized blood is used a new donor, vaccinated within the previous twenty-four hours, should be taken for each injection.

618. Hexamine in Malaria.

E. OLIVERA (*Arch. de med., cir. y esp.*, November 12th, 1927, p. 566) remarks that though quinine and its salts form the specific treatment of malaria, the problem of prophylaxis and treatment of this troublesome disease cannot be regarded as settled. The extraordinary tendency of the benign tertiary infection to relapse, the malignancy and resistance to quinine salts of the parasites of the Laverania type, the severe pernicious forms, in some of which, such as haemoglobinuric fever, quinine is absolutely contraindicated, as well as the not infrequent cases of quinine intolerance and the scarcity and high cost of the drug, are all reasons for looking for substitutes or adjuvants for quinine treatment. Since 1925 Olivera has employed hexamine in the treatment of malaria, giving 5 to 10 c.cm. by intravenous injection. Of 47 cases so treated, some recovered after four or six injections. Others, though showing some improvement, proved more refractory to the treatment, and some were clinically cured although examination of the blood showed the presence of the parasites after an intensive treatment. Hexamine is said to be specially indicated in the pernicious forms, and especially in haemoglobinuric fever, in malaria complicating pregnancy, and in cases of intolerance to quinine salts. Moreover, in combination with quinine it has the twofold effect of acting on the parasites and favouring the elimination of toxins.

Radiology.

619. X-ray Treatment of Tuberculous Glands.

H. MARKUS (*Deut. Zeit. f. Chir.*, September, 1927, p. 209) records his observations on 320 cases of tuberculous glands of the neck treated by *x* rays; 45.3 per cent. were in males and 54.7 per cent. in females. The age groups were as follows: first decennium 13.2 per cent., second decennium 36.5 per cent., third decennium 28 per cent., fourth decennium 8.5 per cent., fifth decennium 6 per cent., sixth decennium 2.1 per cent., seventh decennium 0.3 per cent.; 46.4 per cent. of the patients were between the ages of 15 and 25 years. A cure was effected in 93.9 per cent., but a relatively large number of complications were observed. The most frequent was chronic oedema of the skin, to which the term "pig-skin" was applied; of this 11 examples occurred. All these cases, as well as some others, 19 in all, showed more or less marked telangiectases, which appeared from three months to two years after the application of the rays. In one case rapid development of caries of hitherto healthy teeth occurred. Only one other example of this sequel of *x*-ray treatment of tuberculous glands of the neck, reported by Gotthardt, has been recorded. In another case irradiation was followed by complete aphonia due to paralysis of the left recurrent laryngeal nerve; recovery ensued in about a year. The paralysis was probably due to the pressure on the nerve by growth of connective tissue caused by the irradiation.

620. Radium Treatment of Carcinoma of the Rectum.

H. H. BOWING (*Radiology*, September, 1927, p. 179) describes the treatment of carcinoma of the rectum by radium and gives full notes of its use in four typical early and operable cases. Though too few for statistical purposes, these cases were representative of the small localized and operable lesions. Bowing states that care must be taken to deliver a therapeutic dose and to avoid the possibility of irradiation proctitis. In one case the interstitial method of placing a uniform dose in the malignant area was employed. Bowing remarks that, although colostomy is desirable because it places the field of treatment at rest and allows of greater cleanliness being maintained, thus minimizing the risk of secondary infection, this operation, with the chance of losing sphincter control, terrifies many patients. Adequate exposure for direct vision with the proctoscope is essential, and the use of the endoscope enables accurate application and maintenance *in situ* of the radium tube, the rectal lumen being packed with vaseline gauze, which is, as a rule, well tolerated by the patient. Probably four hours is sufficient for treatment; this depends on the thickness of the lesion and the filters employed; those indicated are 1 mm. of brass and 2 mm. of aluminium or Para rubber. By using the broken dose method, with an interval of three or four days between applications, the individual response can be estimated. At each application the normal rectal walls should be packed away from the applicator as much as possible. Repeated proctoscopic examinations are advised during treatment and at frequent intervals afterwards for several years.

621. Ammonium Bromide in Urinary Radiology.

WHILE recognizing with Wedd the efficacy of sodium bromide in urinary radiology, W.-E. COUTTS (*Journ. d'Urolog.*, October, 1927, p. 296) prefers ammonium bromide for this work, as the shadows produced by the latter are much more opaque than those by the bromide of either sodium or strontium. It has been shown that ammonium bromide, when injected into the bladder or renal pelvis, absorbs a greater proportion of the *x* rays than do the sodium or strontium salts, consequently the plate gives a more precise image of the urinary tree. This greater opacity is due to the fact that the ammonium salt contains a greater proportion of bromine (81.6 per cent.) than does the sodium salt (57.52 per cent.). Ammonium bromide, or ammonia bromhydrate, is a white crystalline powder composed of small cubical or prismatic crystals, which is colourless when obtained by slow evaporation. On exposure to the air and on heating in aqueous solutions, it becomes yellowish and gives an acid reaction. In 1.5 parts of water the salt dissolves with great heat absorption. The acidity of aqueous solutions is due to a hydrolytic decomposition, and these solutions should be kept in dark bottles to prevent the liberation of the bromine. With urine no precipitate is formed. The pharmacological properties of the ammonium compound are greater than those of the sodium and potassium salts, as both the bromine and the ammonium exercise their effects, and Gibb has shown that it lessens the sensibility of mucous membranes. Coutts employs this salt in urinary radiology in sterilized 25 per cent. aqueous or glycerin solutions. After the injections the ureter, pelvis, or bladder is washed with sterile water. The after-effects of injections of ammonium bromide are similar to those of the sodium salt noted by Wedd.

622. X-ray Examination in Sciatica.

ACCORDING to V. BARTOŠ (*Bratislavské Lekárske Listy*, August, 1927, p. 82) the clinical symptoms of sciatica, including Lasègue's sign, diminished patellar and Achillean reflexes, and wasting, may be present not only in diseases of the lumbar spine, in sacralization of the lumbar vertebrae, and in arthritic changes of the sacro-iliac joint, but may also be observed in ossifications of the ilio-lumbar ligament, in arthritic involvement of the superior processes of the ilio-sacral column, and in thoracic spina bifida. These observations indicate how different pathological entities may give rise to the clinical appearance of sciatica, and emphasize the importance of *x*-ray examination in this disease.

Obstetrics and Gynaecology.

623. Puncture of the Pouch of Douglas.

B. ZONDEK and W. KNORR (*Zentralbl. f. Gynäk.*, November 5th, 1927, p. 2842) summarize as follows the information which may be gained by aspiration with a syringe introduced in the pouch of Douglas through the posterior vaginal fornix. Fluid blood in smaller amounts than 5 c.cm. may come from a blood vessel (in which case the erythrocytes in the deposit will not show deformity), and has no diagnostic significance; when at least 5 to 10 c.cm. can be drawn off, this comes from a haematocele or from a corpus luteum cyst, intact or ruptured. Admixture of blood with small clots points to extrauterine gestation. Thin, comparatively clear reddish-brown fluid, of low specific gravity, suggests strongly a twisted ovarian cyst; the authors have verified this by operation in three cases, in one of which the history and clinical signs were those of ruptured ectopic gestation. A thick mucous fluid is typical of pseudo-mucinous cystoma; aspiration, on account of the consistence of the liquid, may be difficult or impossible. The interpretation of a thick or thin serous fluid is more complicated, and the protein content should be roughly estimated by Rivalta's method, the contents of the syringe being allowed to fall drop by drop into dilute acetic acid; richness in protein denotes an acute inflammatory process, and poverty points to a cyst. Fluid resembling blood serum in appearance and consistence may be drawn off from a chronic inflammatory exudate or from an ovarian follicular cyst. In the

former case the sedimentation time of the erythrocytes is diminished. For the diagnosis of the rarer follicular cysts the ingenious suggestion is offered of examining by the Allen and Doisy method the ovarian hormone content of the aspirated fluid; oestrus in a castrated mouse injected during the course of forty-eight hours with six doses of from 0.1 to 0.3 c.cm. denotes the presence of the hormone. In a patient aged 19, whose history and clinical signs suggested ruptured ectopic pregnancy, ovarian hormone was found in the fluid obtained after puncture of the pouch of Douglas; an operation was avoided, and cure followed aspiration. The significance of the presence of pus is obvious. Zondek and Knorr do not recommend diagnostic puncture of the pouch of Douglas except in cases in which, after careful consideration of the history, physical findings, and red blood cell sedimentation time, the diagnosis still remains obscure. It is essential, of course, that previous palpation shall have demonstrated quite clearly a definite tumour, aspiration of which seems feasible. During the last four years they have punctured the pouch of Douglas in 85 cases in which diagnosis was obscure, these constituting 4.6 per cent. of the cases seen in that period. No inconvenient or untoward consequences followed the procedure, even when subsequent operation was delayed for twenty-four hours. A curved needle of the same lumen as a lumbar puncture needle is used, after disinfection of the vagina with alcohol or tincture of iodine. In cases of ruptured ectopic gestation coming to operation after puncture of the pouch of Douglas, drainage through the posterior fornix is considered advisable. In all save one of the authors' 85 cases correct diagnosis was arrived at after the puncture, and in several instances laparotomy was thereby avoided; among others, 16 cases of supposed ectopic gestation were recognized as cases of inflammatory tumour, and 8 cases of suspected adnexal tumour came to be correctly interpreted as examples of ruptured tubal pregnancy.

624. Indications for Caesarean Section.

G. C. MOSHER (*Surg., Gynecol. and Obstet.*, November, 1927, p. 655) discusses the circumstances under which Caesarean section is justified, and concludes that a positive indication is furnished by a tumour blocking the pelvic outlet, or an external conjugate diameter of less than 17 cm. and a true conjugate of no more than 6 cm. He believes that 75 per cent. of all pelvic contractions allow delivery by the natural passages. In the classical conservative operation the maternal mortality should, he thinks, not exceed 2 per cent., but this is increased considerably by rupture of the membranes, attempts to use forceps, induction, version, craniotomy, or even repeated vaginal examinations prior to the section. After any of these have occurred, Mosher states that craniotomy should be selected in the interest of the mother's life. If the operation is to be performed after potential infection it should take the form of Porro's procedure, or of a low extraperitoneal modification. In eclampsia, according to the author, the indication for Caesarean section is limited to the case of the primipara with a rigid, long, unyielding cervix, no improvement having followed conservative treatment for six hours. He thinks that placenta praevia is best treated, as a rule, by induction with a Voorhees bag, the exception being severe bleeding without dilatation in the central type of placental attachment.

625. Antisepsis in the Induction of Labour.

H. W. MAYES (*Journ. Amer. Med. Assoc.*, November 12th, 1927, p. 1685) refers to the danger of infection when a hydrostatic bag is used for the induction of labour, and states that the risk is considerably lessened by the routine use of a 4 per cent. solution of mercurochrome (220 soluble) as a vaginal antiseptic before the introduction of the bag. In ninety-three inductions without the use of mercurochrome the morbidity was 29 per cent., whereas in seventy-eight in which this antiseptic was employed the morbidity fell to 11.5 per cent. Similarly, in toxaemic cases it was reduced from 20.5 to 10.3 per cent. Without mercurochrome the morbidity rate increased with the time the bag was in the uterus, whereas in the mercurochrome group the reverse was the case.

Pathology.

626. The Synergism of Antibodies.

M. WEINBERG and J. BAROTTE (*C. R. Soc. de Biologie*, November 18th, 1927, p. 1326) have noticed that the agglutination titre of a serum which is both antitoxic and antimicrobic varies according to whether it is tested with a diluted culture or with organisms which have been centrifuged and suspended in saline. Working chiefly with anti-*perfringens* serum they find that when the results are recorded after four hours' incubation at 37° C. the titre with the diluted culture is higher than with the washed suspension of centrifuged organisms—sometimes as much as 1 in 1,000. In looking for the explanation of this phenomenon they observed that the difference between the two antigens disappeared if increasing doses of toxin were added to the suspension of centrifuged organisms. From this they conclude that the agglutinating power of a serum is higher when it is tested against an antigen containing the soluble culture products; the reason being that the agglutinins are reinforced by the precipitins. If precipitins can reinforce the action of agglutinins, then agglutinins should be able to reinforce the action of precipitins. This they find to be true. Certain samples of antitoxic anti-*perfringens* serum are able to cause flocculation only when large quantities of the corresponding toxin are added, and then only of slight degree. But if a very small amount of centrifuged organisms is added to the mixture—so small that they do not modify the limpidity—good flocculation is obtained, even in mixtures containing only one-tenth of the amount of serum. This reinforcing action of one antibody by another they term "synergism." In another paper (ibid., p. 1328) the authors report that it is extremely difficult to distinguish between antitoxic and antimicrobic serums. Working with anti-*perfringens* and anti-*septique* serum they observed that an antitoxic serum prepared with filtered toxin often had a high agglutinating titre to its homologous organism—as high as 1 in 5,000 or 1 in 10,000. The reverse was also true; an agglutinating serum prepared with dried formolized or with washed living organisms was often antitoxic, neutralizing, for example, a lethal dose of toxin with one two-hundredth c.cm. of serum. It is concluded that there is in fact no sharp distinction between the two classes of serum; the bacterial bodies always contain a small amount of toxin, which gives rise on injection to antitoxin; and filtered toxins contain some of the products of microbic disintegration, which produce agglutinins.

627. Excretion of Chlorides in Hepatic Disease.

B. KRISS and L. POLLAK (*Wien. klin. Woch.*, October 6th, 1927, p. 1251) found as a result of a series of observations on the effect of sodium chloride, potassium chloride, and ammonium chloride on the excretion of chlorides in a number of normal persons and of patients suffering from catarrhal jaundice and other conditions, that the excretion of the chloride ion depended to a variable extent on the kation given along with it. In healthy persons the excretion of chloride was little affected by the nature of the kation administered, though there was some tendency to chloride retention when the sodium salt was given. In patients with hepatic disturbance or oedema there was marked retention of chlorides when the kation was sodium, but good excretion when potassium chloride or ammonium chloride was administered. The authors state that it is now generally recognized that a diffuse parenchymatous lesion of the liver is present in catarrhal jaundice. In the febrile patients examined marked retention of chlorides occurred irrespective of the kation. As the alterations in chloride excretion were similar in patients with hepatic disease and in those with oedema of renal or hepatic origin, it is suggested that part at least of the effect of the sodium ion is produced through the oedematous or congested liver. The recorded results also indicate that the salt intake of patients with diffuse hepatic disease may be of therapeutic importance and that the administration of potassium salts might be of value, especially as the experimental doses of potassium and ammonium chlorides were in a few cases of jaundice immediately followed by a diminution of the icterus and of pigment excretion in the urine.

628. Diastase in the Blood Serum and in the Urine.

C. K. SCHAANING (*Norsk Mag. f. Laegevidensk.*, October, 1927, p. 801) investigated the diastase in the blood serum and in the urine of normal individuals and of patients suffering from various kidney diseases. He found that the power of the kidney to concentrate diastase was reduced in cases of cirrhotic kidney, chronic nephritis, hypertension with albuminuria and diminished renal function, some cases of acute nephritis, and least frequently in the albuminuria of pregnancy. The power to concentrate diastase was also found to be low in two cases of nephrosis with reduced renal function, while in one patient with normal function the concentration power was normal. Some cases of surgical kidney also showed a reduced concentration power. In ten cases the excretion of diastase was lower from the diseased than from the normal kidney. Schaaning concludes that determination of the power of the kidney to concentrate diastase affords a good idea of the renal function in relative agreement with the ordinary kidney function tests.