AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

193. Tuberculin in Febrile Phthisis.

IN a paper illustrated by numerous temperature charts, J. W. Samson (*Berl. klin. Woch.*, November 25th, 1912) reports favourably on the use of very small doses of tuberculin in febrile phthisis. Hitherto some authorities, including Sahli, Bandelier, and Röpke, have occasionally obtained good results by this method, but others have reported unfavourably on it. The author holds that though small doses of tuberculin have been given they have not hitherto been small enough, and that doses as small as 0.00001 mg. of old tuberculin or 0.0001 of Koch's bacillary emulsion are not ineffective. The first and last doses which he gave in one case were 0.0001 and 10.0 mg. of old tuberculin. In another case the first and last doses of bacillary emulsion were 0.0001 and 0.8 mg. In another case the initial dose of bacillary emulsion was as small as 0.00001 mg. The tuberculin treatment of febrile phthisis differs in many respects from the treatment of afebrile cases with tuberculin, for not only must the initial dose be very small, but no attempt must be made to reach those large doses to which early cases of afebrile phthisis may ultimately attain. The disappearance of fever is often the only effect of the tuberculin, and the author is careful to point out that a fall of temperature is not necessarily synonymous with the arrest of the disease. He confirms the observations of other workers that the temperature generally persists at the same level until several injections have been given, when it falls to normal. This is the case with slight and moderate fever in the first and second stages of the disease. In the third stage this effect is only obtained in a few cases. By his cautious dosage the author aims at avoiding reactions of which the focal reaction, indefinitely prolonged, is most harmful. He has observed as the result of relatively large doses a state of "protracted focal reaction" with increased physical signs over the lungs, increased cough and expectoration, and more than the usual number of bacilli in the sputum. By the adoption of his minute doses these symptoms are avoided; and if the temperature is further raised by an injection it is not repeated till the temperature has fallen to its former level, when a similar dose is given. This dose is now repeated, and only when it causes no reaction is it increased. Intervals of only three to five days are allowed between each injection so long as no reaction occurs. It matters little what form of tuberculin is used, but it may be advisable to avoid old tuberculin in advanced laryngeal tuberculosis for fear of a focal hyperaemic reaction. In addition to the two forms of tuberculin already mentioned, the author recommends Fritz Meyer's sensitized bacillary emulsion. In the process of gradually raising the dose of tuberculin, special care is necessary at the transition between solutions of different strength, for reaction to tuberculin depends not only on the actual amount but also on the concentration. The view that small doses of tuberculin render the body hypersensitive is a common fallacy due to a confusion between intolerance to vaccines and serum anaphylaxis. Only by large or too frequent doses of tuberculin can its therapeutic action be destroyed. The patients suitable for this form of tuberculin treatment are those whose fever has persisted in spite of hygienic and dietetic treatment, and who are unsuitable for the artificial pneumothorax treatment. Patients whose fever disappears on treatment with tuberculin fall into three groups. In one the pulmonary disease grows less and its permanent arrest may be effected. In another the pulmonary disease remains stationary, but the weight, appetite, pulse, and general vitality show marked improvement, and life is much prolonged. In a third group the disease is progressive in spite of a normal temperature. Life is, however, prolonged by some months, which are passed in relative comfort. A similar condition is sometimes found among patients who, without any specific treatment, became afebrile shortly before death. In both cases the cessation of fever induces a feeling of well-being and health, the attainment of which in the moribund is alone sufficient warrant for the treatment.

194. Acute Abdominal Aortitis.

MINET, LECLERCQ, AND HOLLEAU (*L'Echo méd. du Nord*, 1912, lx) consider this disease under the following headings: (1) *Symptoms.*—(*a*) Accessory. Pain is habitually the first symptom to occur, and increases quickly in severity. It takes on the form of violent cramps in the stomach, intestine, liver, or kidney, and simulates disease of these organs. It may radiate to the lower limbs. The dorsal position seems to aggravate it. Nausea, vomiting, constipation, flatulence, diarrhoea, and even haemorrhage may occur with it, but are very variable. Intense dyspnoea, vertigo, intermittency of the heart, which feels as if it stopped between the stomach and the abdomen, had also been noticed. (*b*) Essential. Pain most often just above the umbilicus, painful on pressure, enlargement of the aorta, which can sometimes be detected, and deviation and mobility of the vessel, usually to the left side, with marked pulsations and contraction of the right rectus muscle, form a symptomatic triad to which Potain has drawn attention. Hypertension of the dorsalis pedis artery is very frequent, and Teissier finds that the degree of aortic irritation is generally proportional to this hypertension. Elevation of the temperature nearly always occurs during the attacks of aortitis, and persists for a variable length of time. (2) *Complications.*—Gastric crises characterized by violent pains in the stomach, nausea and vomiting are frequent. Intestinal crises are more rare, and manifest themselves by pain in the bowels and diarrhoea. Muco-membranous entero-colitis seems to have some narrow relationship to abdominal aortitis. Nephritis is rare, and likewise appendicitis. Emboli are extremely infrequent. Asphyxia of the foot, with threatening gangrene, has been noticed. (3) *Evolution: Prognosis.*—The disease sometimes sets in suddenly, and sometimes insidiously. Cure is sometimes rapid, and sometimes the symptoms last for weeks or months. An acute case never becomes chronic. The prognosis is usually favourable, but death has occurred. Aortitis of the abdominal aorta is less serious than that of the thoracic part. (4) *Diagnosis.*—Abdominal pain at the level of the aorta, or deviation and incurvation of the vessel, and hypertension of the dorsalis pedis, permit of the diagnosis of acute aortitis. Tabetic crises very similar to aortitic crises can be excluded by the presence of other signs of tabes. In cases of aortic aneurysm and abdominal crises from various diseases the absence of hypertension of the dorsalis pedis will generally give a clue to the diagnosis. (5) *Etiology and Pathogeny.*—Primary acute abdominal aortitis is very rare, and it is said to have occurred after cold, fatigue, and trauma, and infections, as influenza, typhoid fever, scarlet fever, etc. It is more commonly the result of secondary causes by propagation from one of the neighbouring organs. The majority of the symptoms are of reflex origin from the periaortic and pericardiac plexuses, or from the large sympathetic. (6) *Treatment.*—Rest in bed. Very warm fomentations, belladonna plaster, blisters, leeches, have their advocates. Aspirin, sodium salicylate, amyl nitrite, trinitrine, bromides, especially the salt of strontium (1 to 2 grams per diem), belladonna, valerian, have all been recommended. Convalescence can frequently be hastened by mineral water, especially at Royat, Plombières, or Châtel-Guyon.

195. Thrombo-phlebitis in Typhoid.

CONNER (*Archiv. of Intern. Med.*, December 15th, 1912) regards many of the obscure late interruptions of the normal course of typhoid as having a common underlying cause in thrombo-phlebitis. Although the incidence of this complication is usually placed at 2 per cent., an earlier recognition of milder and less characteristic manifestations will show that venous thrombosis occurs in from 10 per cent. to 15 per cent. of all cases of typhoid. The development of the condition is gradual and commences long before its classical symptoms develop, so that these latter appear only late in the process, which is much more extensively disseminated than the actual symptoms indicate, and even with the frank symptoms of the trouble quite circumscribed there is usually a widely scattered thrombosis. Notes of 63 cases are given, clearly pointing to the conclusion that a very large proportion of the pulmonary and pleural complications of typhoid are embolic in nature, especially those in which the embolus is small, the symptoms mild and transient, and the prognosis good, the signs occurring several days before any of the usual local symptoms of phlebitis can be discovered. It was further noted that, in cases complicated by phlebitis, multiple chills, for which no satisfactory

cause has hitherto been assigned, were frequent, and in those cases where no phlebitis was recognized symptoms suggestive of pulmonary embolism occurred, so that it was difficult to escape the conclusion that these obscure multiple chills bear some direct relation to the thrombotic process in the peripheral veins. Another occasional complication occurring late or during convalescence is a condition of painful and exquisitely tender toes, and, although the causal relation between phlebitis and this condition is not proved, the association of the two is so frequent as to warrant an assumption that such association is not merely accidental. From the transient character of the symptoms and the lack of trophic changes, it can hardly be attributed to an actual neuritis, and it is probable that there is a primary thrombosis of the veins in the region of the heel, and that the subsequent periphlebitic exudate irritates the closely adjacent plantar nerves, and such a cause may underlie many of the cases of localized neuritis which frequently complicate typhoid fever. There is no entirely satisfactory explanation of the cause of the fever in latent phlebitis, though intravenous injections on animals with sterile finely divided paraffin are regularly followed by a rise of temperature. The temperature which precedes a thrombo-phlebitis should be looked for several days before the first apparent manifestation of the condition, and it may be concluded that many of the unaccountable rises of temperature occurring during convalescence from typhoid, and most of the protracted and irregular types of post-typhoid fever, are due to thrombo-phlebitis.

SURGERY.

196. Fatal Post-scarlatinal Perirenal Haematoma.

W. HERING (*Deut. med. Woch.*, January 2nd, 1913) records the case of a lad, aged 7, who suffered from pain in the umbilicus and left testicle three weeks after developing scarlet fever, the course of which had hitherto been normal. The pain in the testicle increased and spread upwards till the whole of the left inguinal canal and the lower part of the abdomen on the left side were painful. The temperature was 100.4° and the pulse 80. There was progressive anaemia and rapid respiration, but there was no loss of consciousness. Two days after the onset of these symptoms the pulse was 150, the temperature was subfebrile, and the abdomen was somewhat distended, being markedly rigid even on light palpation on the left side. The urine contained neither albumen nor blood. The spermatic cord and the neighbouring structures were swollen and tender. This condition, combined with vomiting and absence of motions and flatus, led to the diagnosis of incarcerated omental hernia followed by intestinal obstruction and peritonitis. But an incision over the left cord showed no hernia. The testicle, however, was suffused with blood and was as large as a pigeon's egg. A little bloodstained serous fluid was found in the tunica vaginalis. An exploratory laparotomy was now made, when bloodstained, sero-fibrinous fluid was found in the peritoneal cavity, the lining of which was covered with a fibrinous deposit. Though the intestines were distended, no hernia or constriction of the intestine was demonstrable. The parietal peritoneum bulged over the left kidney, and was livid from this point down to the pelvis. A needle was introduced and dark red fluid blood was aspirated from the swelling. As drainage of this haematoma by the abdominal route was considered unsatisfactory, the abdomen was closed, and the flank was incised over the left kidney. The lumbar muscles, the retroperitoneal tissues, and the fatty capsule of the kidney were suffused with fluid and coagulated blood. Death followed three days later. The necropsy showed diffuse, purulent peritonitis and a normal appendix. Except for slight hyperaemia of the cortex and slight haemorrhagic injection of the right renal pelvis, the kidneys were normal. Neither at the operation nor the necropsy could the site of the haemorrhage be found, and the author thinks that a capillary haemorrhage must have occurred, either in the left suprarenal body or in the neighbouring structures. He also traces the paralytic, progressive, intestinal obstruction to the haemorrhage, which must have been due to the scarlet fever.

197. Non-tuberculous Cold Abscess and Non-acute Staphylococcic Abscess and Osteomyelitis.

ABADIE (*Arch. prov. de chir.*, December, 1912) contributes a paper which he entitles "Cold Abscess and Chronic Osteitis from Staphylococcic Infection; Tuberculous Acute Abscess and Acute Osteitis." Surgeons are too apt to regard cold abscess as synonymous with tuberculosis, and to look upon all acute abscesses and osteitis as staphylococcic. Non-tuberculous cold abscess does exist. He cites four cases, two in his own practice, where abscesses, which clinically were designated "cold," appeared several years after an acute attack of osteomyelitis, good health being experienced in the interval. The pus was found to contain staphylococci, but a previous and long-cured infection need not necessarily have been present. The staphylococcus may, without early acute infection, of its own accord give rise to a cold non-osteopathic abscess. Abadie quotes a case narrated by Schwarz and Kahn and another in his own practice which were multiple in their localizations. Abadie's patient was a child of 4 years who, two and a half months before, had suffered from measles followed by imperfect recovery. A week before admission into hospital multiple abscesses, symmetrical, painless, and of slow growth, formed in the neck and lumbar region. Incision of the lumbar swellings was made; the pus contained staphylococci. A staphylococcic invasion may be silent; a tuberculous invasion may, on the other hand, be acute. Broca has pointed out already that hydrarthroses of rapid acute formation, simulating acute staphylococcic or streptococcic infection, may develop in the knee, and may (after inoculation of guinea-pigs with the exudate) prove to be tuberculous. This evidence may be confirmed by later development of "white swelling." Indeed, there may actually be pus—an acute suppurative tuberculous arthritis. Abadie does not admit that an organism must necessarily give rise in every case to the same clinical characteristics. The virulence of a particular species of organism is far from being constant. In proportion as the evolution of the disease is prolonged, the virulence of the initial infective agent will become attenuated. It is evident then that late torpid staphylococcic manifestations are to be explained by a slow attenuation of the virulence of the organism. Again, the coefficient of resistance of the body plays a part. Regarding tuberculosis (quoting Calmette with approval) it may be that the majority of individuals have been infected from infancy by the digestive tract. This attenuated infection manifests itself mostly by mesenteric gland reaction, and confers relative immunity. New invasions will not be more tolerated by the organism but will provoke defensive reaction, tending to the expulsion of the infecting agents and damaged tissues. It will be well in every case of apparent cold abscess to make microscopic examination, and also inoculation experiments, before deciding that it is tuberculous.

198. Diaphragmatic Hernia.

VOGEL (*Amer. Journ. of Med. Sciences*, February, 1913) reports a marked case of congenital diaphragmatic hernia unaccompanied by any subjective symptoms, death resulting from an independent lesion. A man, aged 47, was admitted to hospital suffering from stenosis of the large intestine with peritonitis, ending fatally, and the history included no symptoms of the remarkable condition revealed at the autopsy. On opening the thorax the colon was found occupying the left chest through a left-sided diaphragmatic defect. The spleen was about in the position of the heart, which was pushed over to the right, its left border being 2.5 cm. to the right of the median line. The left lung was collapsed, and the left chest was filled with omentum, caput coli, transverse and descending colon, the latter being straight, and running directly to the brim of the pelvis. The stomach was above the diaphragm with the duodenum passing through the hernial opening, which occupied the posterior and lateral portions of the diaphragm and was about 15 cm. in diameter. Such hernias may he classified under three headings: (1) True hernias, consisting of protrusions of abdominal viscera through congenital or acquired openings, with pleura and peritoneum to form a sac; (2) false hernias, in which there is no true sac; and (3) diaphragmatic eventration, due to relaxation of a portion of the diaphragm itself. The condition is much commoner than is generally supposed, and it may exist indefinitely without giving rise to symptoms. If sufficiently large the physical signs are usually significant, and dextrocardia with signs suggesting pneumothorax should always lead to a suspicion of some form of diaphragmatic hernia, and to a radiographic study of the thorax, several examinations at different times and positions, and with and without bismuth, being necessary. In traumatic hernias operation is indicated as soon as the existence of a fresh wound in the diaphragm is ascertained, and the prognosis is good when a prompt operation is performed. In chronic hernias prophylaxis of incarceration is the main object, surgical interference being indicated only in the event of incarceration occurring.

OBSTETRICS.

199. Direct Transfusion after Placental Haemorrhage.

OUI, in the *Bull. de l'Acad. de Méd.* of October 29th, 1912, relates a case in which this operation was carried out successfully. The patient had had five normal accouchements; the first half of the sixth pregnancy was normal also. She then complained of severe pains in the right lumbar region. On examination there was evidence of marked increase in size of right kidney. There was a good deal of pus in the urine. She was put upon a lacto-vegetarian diet, but with no effect. Labour came on, and there was some bleeding, but on rupture of the membranes this ceased externally as the head engaged. There was every evidence that the haemorrhage was due to detachment of the placenta. The pulse became small and accelerated. A dead child was delivered soon after. There was formidable haemorrhage after delivery, and the placenta was found completely detached. It was removed, as were all intrauterine clots. Meantime the patient had collapsed. She was exsanguine, and her pulse 140. All the usual methods of restoration were tried, but produced only momentary benefit. Finally recourse was had to direct transfusion from the radial artery of the patient's husband into the median cephalic vein of the patient. This was carried out according to the procedure of Carrel, slightly modified. In a few minutes the lips of the patient, who by this time was quite insensible, began to be faintly coloured; her eyes opened, and her pulse became perceptible again. The radial artery of the donor was rather small, and the transfusion was continued at his request for an hour. The pulse gradually fell to 92 per minute, and ultimately the patient made a good recovery. In this case the massive injections of normal saline which would have been necessary were contraindicated on account of the renal insufficiency. Other isotonic serums might have been used, but the difficulty of preparation and sterilization render such quite inappropriate in a case of this kind. The author does not believe that in grave cases of puerperal haemorrhage the effect of saline infusion is as powerful as direct transfusion. The volume alone of the latter could not so powerfully raise vascular tension, and in the author's view the mode of action is not clear. This method is the procedure of choice in such an emergency, and is preferable to the use of special cannulae, and, further, there is no risk of the formation of clots.

GYNAECOLOGY.

200. Extrauterine Pregnancy.

FARRAR COBB (*Annals of Surgery*, December, 1912) has made an investigation into the question of the management of grave emergency cases of extrauterine pregnancy with the object of obtaining information as to the wisdom of immediate operation in desperate cases of rupture with severe haemorrhage, as in a recent discussion delay was advised in some cases. He studied 137 cases of tubal and insterstitial pregnancy in Massachusetts General Hospital from 1902 to 1910. His conclusions are: (1) More than one-third of all cases of extrauterine pregnancy occur in women who have never before been pregnant. (2) Pelvic inflammation or salpingitis is not an essential or even frequent causative factor. (3) Most of the cases of complete rupture with alarming haemorrhage occur in the early weeks, often in the first month; these are the cases which are rapidly fatal unless operated on. Cases that have gone two months or more are those which furnish the greatest number of non-emergency cases. (4) Cases of sudden severe rupture, in which signs of marked intra-abdominal haemorrhage are present, often simulate other grave abdominal emergencies. (5) In grave emergencies, with signs of extreme haemorrhage, operation should be done at once without waiting for a possible reaction. (6) In the less severe cases of tubular rupture, without signs of marked haemorrhage, a correct diagnosis is often difficult or impossible. (7) The menstrual history cannot be relied upon; many of the most alarming cases had skipped no period. (8) The character and location of the pain may vary within wide limits. (9) Tubular abortions are nearly as frequent as tubular ruptures. The author insists upon a very minute technique: absolutely everything in connexion with the operation should be in readiness before it is begun. Shock and collapse, until the haemorrhage is stopped, should be combated by morphine subcutaneously and artificial heat. The anaesthetic should be ether. At the first signs of muscular relaxation the patient should be placed in the Trendelenburg position and abdomen opened in the middle line. Without attempting to evacuate the blood and clots first, one ovarian artery and then the other should be caught with long clamps. As soon as this is done intravenous salt infusion should be started, strychnine given, and the blood and clots washed from the abdominal cavity with generous use of hot salt solution. The tube in which the pregnancy is located should be doubly ligated and removed and the abdominal wall closed by through-and-through silkworm gut sutures without drainage. The patient should be in bed in fifteen minutes from the time the anaesthesia is started.

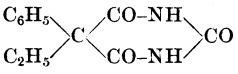
THERAPEUTICS.

201. The Therapeutic Value of Camphor.

HEARD AND BROOKS (*Amer. Journ. of Med. Sciences*, February, 1913) investigated clinically and experimentally the therapeutic value of camphor. During the last three weeks of a case dying from an infection secondary to a suppurative cholecystitis, there were several acute attacks of alarming circulatory breakdown occurring during the course of a clinical auricular fibrillation, and apparently due to the action of the infective agents upon the myocardium and vasomotor apparatus. The hypodermic injection of camphor was followed in more than one instance by a marked temporary improvement in the character of the pulse and in the general condition of the patient. Considerable divergence of opinion exists as to the safe dose of camphor, some fearing to give more than 2 to 5 grains, while others claim that ten times those amounts can be administered without bad effect, the explanation of this variation probably lying in the metabolism and excretion of the drug. When absorbed it quickly unites with glycuronic acid and is thus rendered inert, being subsequently excreted in the urine as campho-glycuronic acid. A variable portion may escape such combination and be excreted uncombined by the lungs, and to this portion is attributed the physiologic action of the drug. Schultz explains the toxic effect in poorly nourished infants on the assumption that there is not sufficient available glycuronic acid to combine with the camphor, and consequently the uncombined portion becomes greatly increased; whereas in well nourished infants no intoxication followed the administration of relatively large doses, because there was enough glycuronic acid to unite with all the camphor. If this theory is correct, care should be exercised in giving camphor to patients with a poor glycuronic acid content. The drug restores the heart after poisoning with chloral, muscarine, strychnine, etc. Clinically the investigation was limited to a study of the effects of hypodermic injections of the drug, dissolved in oil, upon the circulatory system of human subjects presenting varying conditions of the cardio-vascular apparatus. Records of the pulse and of systolic and diastolic blood pressure were made at frequent intervals, covering an average period of two hours. Polygraphic tracings were taken in several of the fibrillation cases before, during, and after the use of camphor, but in no instance was any alteration in the type of the radial or venous pulse observed. The laboratory results were in agreement with the clinical findings, camphor injected subcutaneously in oil, in doses as large as 50 grains, producing no definite effects. While it may be an active agent in certain disorders in which there is an abnormally small glycuronic acid content, and may act favourably upon cardiac muscle poisoned by chloral, muscarine, or strychnine, it cannot be relied upon as a cardiac stimulant, nor feared as a toxic agent, in doses and under the conditions studied.

202. Luminal.

F. BAYER AND CO. of Elberfeld have associated themselves with Merck of Darmstadt in bringing out a new sedative and hypnotic, called "luminal." The need for new hypnotics and soporifics is recognized, especially in neurological and psychiatric practice, since the larger the variety at hand the better is the chance of avoiding a habit for the one or other. Besides, each drug has its special indications, and usually fail in some patients, so that other drugs have to be tried. Luminal is the phenyl-ethyl-barbituric acid, having the formula:



The preparation can be had as a powder or in tablet form, or in the form of the sodium salt for subcutaneous injection. The acid is little soluble in cold water, while the sodium salt is readily so. The dosage advised varies according to the case from 0.2 to 0.6 gram; 0.3 for women

and 0.4 gram for men is said to have approximately the same action as 0.5 gram of veronal. P. Schaefer (*Berl. klin. Woch.*, May 27th, 1912) has used it in infirmary practice, and recommends it as a sedative and as a simple hypnotic. He has found it capable of relieving pain of organic origin. He states that its action is more powerful than the majority of ordinary sedatives. But he warns the reader not to give it in cases with severe changes in the heart and vessels exist, such as arterio-sclerosis. He gave it to one patient with chronic bronchitis and arterio-sclerosis in doses of 0.4 gram. Later he gave 0.5 gram, and the sleep was so deep that a hypostatic pneumonia and cardiac weakness set in from which the patient died on the fifth day. He is of opinion that the patient might not have died so soon if the luminal had not been given. A. Wetzel (*Berl. klin. Woch.*, May 13th, 1912) has used it in the Heidelberg psychiatric clinic, and is specially pleased with the effect of the subcutaneous injections. He gave it in a variety of mental conditions, comparing the result with that of other hypnotics. The dose given varied between 0.3 and 0.4 gram. The only undesired effect met with was the occurrence of vomiting, which was seen in some cases. The best results were obtained in patients who were fairly quiet but who slept badly. These patients often refuse to take medicines by mouth, and the subcutaneous application of the drug in 20 per cent. solution is extremely handy. The sleep induced is a very natural one. Graeffner (*Berl. klin. Woch.*, May 13th, 1912) reports that when given with a warm drink at night time sleep is induced in about half an hour and lasts for many hours. In the following nights sleep is obtainable without a fresh dose. It can be given as a suppository. Unpleasant side-effects were not met with save a slight degree of giddiness and prolonged sleepiness. He advises 0.2 gram as the initial dose, which can be increased up to 0.4 or 0.5 gram if necessary. He found that it was useless in cases where the cause of sleeplessness was pain, thus differing in this respect from Schaefer. O. Juliusburger (*Berl. klin. Woch.*, May 13th, 1912) has had an experience of this drug in 120 patients. In mild cases of sleeplessness he found 0.2 to 0.3 gram sufficient, but in more complicated or obstinate cases he gave up to 0.6 gram and at times even up to 0.8 gram. He never had any difficulty in decreasing the dose, even after he had given 0.6 gram for twenty-two or twenty-three nights. At times luminal failed to produce the desired effect, but in some of the cases it acted very well when given later. In the excitable stages of general paralysis it acted well. It was also of much use in epilepsy and delirium tremens. He points out that in the treatment of the morphine and alcohol habit it acted extremely well. He is opinion that luminal is calculated to replace hyoscine to a certain extent.

203. Pituitrin in Osteomalacia.

C. Koch (*Wien. med. Klin.*, No. 25, 1912) reports on 3 cases of osteomalacia treated with pituitrin. The first was a severe typical case whose origin was possibly a pregnancy which had ended in abortion five years earlier. The patient was given 2 c.cm. of pituitrin subcutaneously every day, and had completely recovered when a total of 190 c.cm. had been injected. At first no result of the treatment was perceptible, and there was thought of changing the treatment, but improvement began to be visible after 12 c.cm. had been given, and in spite of frequent relapses recovery occurred as stated above. The second and third cases were not such typical ones, but the characteristic symptom of pain on pressure along the whole length of the bones could be demonstrated so clearly that the diagnosis was at any rate a very probable one. The cases resembled one another, in that in each the nervous system was markedly involved. In both cases a prompt action was obtained in Case II after 5 c.cm. of pituitrin, in Case III after 3 c.cm. of pituglandol, which appears to resemble pituitrin in its action. It is characteristic that though narcotics and antirheumatic remedies had no effect in removing the acute pain, a striking improvement, especially in the subjective condition, followed when only a few cubic centimetres of pituitrin had been administered. With regard to side-effects, in one case the first two injections, but not later ones, were followed by severe occipital headache, which lasted for about six hours, and then gradually disappeared, while occasionally also in this case the earlier injections were followed by temporary exacerbation of the bone pains. In the second case there was an outbreak of miliaria crystallina at the back of the head and the elbow-joint after the first injections, together with an increased secretion of sweat; and the rash persisted for some days. These two cases suggest that in osteomalacia there may be a specific reaction to pituitrin, which disappears after the first few doses. The first patient began to complain of pain at the site of injection after the injections had been going on for some time, and the addition of a small quantity of novocaine was found to be necessary. These cases showed the harmlessness of pituitrin or of pituglandol as compared with adrenalin in the treatment of osteomalacia, while the effect upon the disease appeared to be similar, or perhaps even better, than that of the adrenalin preparations.

PATHOLOGY.

204. Serum Diagnosis of Echinococcal Infections.

Benno Hahn finds that the ordinary methods of diagnosing echinococcal infections are very apt to fail (*Muench. med. Woch.*, No. 27, 1912). After reviewing the individual signs of echinococcus and the frequency with which these various signs are absent, proceeds to give an account of his observations with Ghedini's serological method. Ghedini claimed absolute specificity from the complement-deviation reaction, but this has recently been questioned. Hahn therefore considers it of importance to record the results of his studies in this direction. The antigens with which he worked included the fluid from echinococcal cysts of human origin and from the pig and ox. He also used alcoholic and aqueous extracts from the cyst walls of these various infections. Lastly, he made alcoholic and aqueous extracts of *Taenia saginata*. The patient's serum was inactivized by heating to 56° C. for thirty minutes, greater heat proving destructive to the antibody. Guinea-pig's serum served as complement, a 5 per cent. suspension of sheep's blood corpuscles were utilized as the corpuscles for haemolysis, and the amboceptor was a dried haemolysis prepared in the Behring Works in Marburg. It is unnecessary in this place to enter into the quantitative details of the tests put up. Of the five patients who were suffering from echinococcus infections, Nos. 1, 3, and 4 gave positive reactions with alcoholic and aqueous extracts of human cyst wall, with aqueous extract of ox cyst wall, and with aqueous extract of *Taenia saginata*, but negative reactions with all the other antigens, negative reactions with Wassermann's test, and no reaction when no antigen was employed. No. 2 gave the same positive reactions, and also with the alcoholic extract of pig's cyst wall, and with ox cystic fluid; the other tests proved negative. No. 5 yielded a negative reaction with all antigens before operation, but after the removal of the cysts a positive reaction was obtained when the antigen was either the alcoholic or aqueous extract of human cyst wall, aqueous extract of ox cyst wall, or *Taenia saginata*. Three patients infected with *Taenia saginata* yielded a positive reaction with alcoholic and aqueous extracts of human cyst wall, aqueous extract of ox cyst wall, and aqueous extracts of *Taenia saginata*; 15 normal persons and 15 syphilitic persons were also tested. In all cases a negative, or at most a very doubtful, reaction was obtained with the serum of these persons. He therefore concludes that Ghedini's complement test for echinococcus proves the presence of this or of *Taenia saginata*. The best antigen appears to be an aqueous extract of the cyst wall, while the cystic fluid does not contain sufficient antigen to be of use. If an alcoholic antigen is employed, it is necessary for the syphilitic reaction to be negative, as the test in this case may not be specific. A negative reaction does not exclude an infection.

205. The Leprosy Bacillus in the Lymph Nodes of Leper Contacts.

Sorel (*La presse méd.*, No. 100, 1912, p. 1016) examined both in lepers and leper contacts those lymph nodes which are accessible to puncture, such as the inguinal, epitrochlear, and cervical. In 8 out of 19 lepers he found leprosy bacilli in these nodes. He examined also in this manner 15 persons living with 7 lepers, and in one case, the sister of a leper, he found leprosy bacilli in the left inguinal nodes, although she herself presented no visible evidence of the existence of leprosy. Marchoux, who presented Sorel's note to the Société de Pathologie Exotique of Paris, remarked that these researches, like those of Lebeuf, tend to establish an analogy between the leprosy of man and of the rat in the first stage of the disease. In man, as in the rat, leprosy can exist in the latent state and remain isolated in the lymph nodes for a long time, and even, it may be, for life.