

# EPITOME OF CURRENT MEDICAL LITERATURE.

## MEDICINE.

### 24. Blood Pressure and Prognosis.

V. TOPP (*Hospitalstidende*, June 4th, 1919) has investigated the subsequent fate of patients admitted to hospital with heart disease and a high blood pressure in the period 1913-16 inclusive. Of the 164 cases with a permanently raised blood pressure—that is, over 180 mm.—there were 157 whose subsequent fate could be ascertained. Within two years 84 per cent. were dead. The mortality rate was directly proportional to the height of the blood pressure. The expectation of life was the same for the two sexes (there were 118 men to 39 women), and grouping the patients according to their ages brought out no difference in the prognosis for the various ages. Of the remaining 16 per cent. who survived the two-year period, most were leading the restricted life of the chronic invalid. In two-thirds of all the cases there was evidence of renal sclerosis, but the mortality was practically the same for the patients with or without renal disease. The author criticizes the observations on this subject published by Janeway in 1913, and suggests that some fallacy must underlie his comparatively favourable prognosis for high blood pressure.

### 25. Percussion and Palpation in Splenic Enlargement.

FINIZIA (*La Rif. Med.*, July 26th, 1919) has examined 122 men with regard to the relative values of percussion and palpation. The method of examination was (1) digital percussion, light or heavy, in the erect position; (2) bimanual palpation in the horizontal position; (3) percussion in the horizontal position and observation of the dullness with reference to a line joining the left sterno-clavicular articulation and the apex of the twelfth rib. The area of dullness is nearly always fictitious, sometimes more sometimes less than the reality, and it is often difficult to give the true reason for this; sometimes it is due to the condition of the digestive tube, sometimes to emphysema. In more than one of the cases the spleen was not palpable even when the major axis of splenic dullness reached well marked proportions. Meteorism, ascites, abdominal hyperaesthesia, obesity may cause difficulties in palpation. Apart from this, its palpability may depend on the volume and consistence and on the length of the phreno-splenic ligament. In 86 cases the dullness did not reach the above mentioned line, in 28 the spleen was felt 3 times, in 25 times. In 8 cases the dullness reached the line and the spleen was felt 4 times. In 50 cases the dullness surpassed the line and the spleen was felt 32 times. In judging the size of the spleen the pleximetric method cannot be compared to palpation, but must be looked upon as subsidiary. The relation of the dullness to the sterno-clavicular costal line does not vary in parallel with the results of palpation.

### 26. Treatment of Gonorrhoea by Detoxicated Vaccines.

LEES (*Edin. Med. Journ.*, August, 1919) speaks highly of the use of Thomson's detoxicated vaccine in the treatment of gonorrhoea. As an adjunct to the ordinary local and general treatment he has found it valuable alike in early cases and in the acute complications of the disease, whilst in chronic lesions of the prostate and seminal vesicles and in joint lesions it is the most effective method he has yet tried. The vaccine stimulates the rapid production of antibodies in the early stages and causes an increased production in the later stages. His practice is to start with an initial dose of 2,500 million, which is gradually increased to 10,000 million, the injections being given subcutaneously every fourth day. Rarely are severe reactions produced, and these seldom last for more than twelve hours, rapidly disappearing with successive inoculations. The sooner the injections are commenced the more quickly are good results obtained; often the disease clears up as early as the fourth to the fourteenth day. The increase of antibody in the blood coincides in all cases with disappearance of the clinical symptoms. The author finds that by the complement-fixation test antibody can be detected in the blood for from four and a half to five and a half months afterwards, and he considers this test a guide to the effect of treatment. Any case which six months after the cessation of treatment gives a negative serum reaction may be considered cured and passed as fit to marry.

### 27. Large Chronic Empyema.

E. VOGT (*Med. Klinik*, 1919, xv, 517) describes the case of a Cossack aged 26 who came up for treatment with a very

large empyema on the left side; it was apparent from the history that this had been present for more than two years. The patient was very short of breath, but otherwise in good condition, and showed no signs of amyloid disease. The left chest was immobile, enlarged, with bulging intercostal spaces; the heart lay entirely to the right of the sternum, and a mewing or whirring murmur was audible over it. Paracentesis of the left chest was performed, and a litre of thin yellow-green pus evacuated; next day two more litres were withdrawn, and two days afterwards six and a half litres more were allowed to escape under pressure in the course of seven and a half hours. The patient made an uninterrupted recovery, and there was no re-accumulation of fluid; the heart had not returned fully to its normal position, and the breath sounds were still very weak over the left chest when the patient was discharged a week later. Cultures of the pus gave growths of streptococci and staphylococci, and no signs of tubercle bacilli could be found in it; the patient gave a negative reaction to injection with 10 mg. of Koch's old tuberculin. At the outset of the illness the patient had been treated in a military hospital for a month, by cupping and painting with iodine, and paracentesis of the chest had been performed with negative result. Empyemas containing 9½ litres of pus, over 16½ pints, are certainly rare.

### 28. Chaulmoogra Oil in the Treatment of Leprosy.

WHILE chaulmoogra oil has for many years proved superior to all other remedies in the treatment of leprosy, the results have been only relatively satisfactory. HOLLMANN and DEAN (*Journ. of Cutan. Dis.*, June, 1919) have further investigated its properties and have found that by fractional separation of the oil they can obtain distinct amelioration, if not cure, in many cases, with disappearance of the bacilli from the lesions, and absorption of the nodules. The first experiments were made with an intramuscular injection of the following composition: Iodine 1 gram, oil of eucalyptus 8 c.cm., camphor 2 grams, olive oil 147 c.cm., chaulmoogra oil 150 c.cm. These ingredients should be mixed in the above order, using heat. A maximum dose of 10 c.cm. is given intramuscularly once a week. It is apparently necessary to persevere with such injections for months, or even years. An attempt was next made to obtain the active principle or principles of the oil; four fatty acid fractions were isolated and were employed in a further series of cases. These experiments showed that the ethyl esters of the chaulmoogra fatty acids were liquids, and much more fluid than the original oil, and that they were peculiarly suitable for intramuscular injection. Full details of the method of preparation are given in the original paper. The results claimed by the authors are encouraging. Thus, in the leprosy nodules local reactions have occurred with subsequent improvement; in six months, in some cases, large nodules have disappeared, leaving deep crater-like scars. Of 26 cases treated, 8 have become bacteriologically negative in less than two years.

### 29. Pituitarism.

LEREBoullet and HUTINEL (*Bull. méd.*, August 2nd, 1919), at a meeting of the Société Médicale des Hôpitaux, showed two adults with the *syndrome adiposo-genital* of pituitary origin. The first case was a male 33 years old, whose illness commenced at the age of 27 with spasmodic headaches and rigors accompanied by polyuria; at 29 there was sexual impotence; at 30 ocular disturbances occurred, and progressed as the polyuria increased, and obesity developed. When seen for his ocular complaint the patient exhibited a typical bilateral hemianopsia associated with enlargement of the sella turcica and partial sinking of the floor. The adiposity, the genital impotence with atrophy of the testicles, the changes in the hair system, and the anaemia with slight mononuclear leucocytosis, completed the clinical picture. There was no history of acquired syphilis, but congenital syphilis could not certainly be excluded, even in spite of a negative Wassermann reaction. The existence of a pituitary tumour was very probable. The other case was a woman of 45 who also first sought medical advice for ocular troubles, with almost complete blindness of the right eye and incipient hemianopsia of the left eye. The menses had ceased at the age of 20, just as fairly pronounced adiposity appeared, accompanied by marked anaemia. Then changes in the hair system supervened, with manifest mental infantilism. Certain bone changes,

especially a considerable enlargement of the lower part of the face, which seemed to indicate the development of acromegaly, were noted. Radiographic examination revealed a profound modification of the sella turcica. Congenital syphilis was very probable.

### 30. An Epidemic of Encephalitis.

E. SIEMERLING (*Berl. klin. Woch.*, June 2nd, 1919) describes the symptoms observed in a small group of cases admitted between November, 1918, and April, 1919, to his hospital in Kiel. The patients were 9 men and 6 women. The outstanding feature of the epidemic was the preponderance of mental symptoms in the early stages. This led at first to the diagnosis of hysteria or other mental diseases; and it was not till the appearance of symptoms referable to definite lesions of the central nervous system that this impression was revised and encephalitis was diagnosed. A conspicuous feature was bilateral ptosis, with nystagmus and slow reaction of the pupils. Delirium, as well as drowsiness lasting several days, was a common feature. In one case a condition suggestive of severe chorea was observed. Several of the patients had recently suffered from influenza, but the symptoms were not characteristic of the psychic sequels of influenza with which the author became familiar during the recent epidemic by the observation of 24 cases. He also excludes syphilis, as Wassermann's reaction was invariably negative. He advanced little further towards diagnosis by lumbar puncture, which showed increased pressure (140-200) only in three of his cases. The examination of the cerebro-spinal fluid showed a moderate degree of lymphocytosis. Four of the patients died. In one of these cases the autopsy showed disseminated meningo-encephalitis. The author concludes that the disease was acute primary haemorrhagic encephalitis, and that it may belong to the type associated by v. Economo with a diplo-streptococcus. Lumbar puncture did not prove very effective in relieving the symptoms, and the most beneficial remedies were rest in bed, ice-bags, sudorific treatment, aspirin, and digalen.

## SURGERY.

### 31. Chronic Septic Inflammation in Bone following Gunshot Wound.

In a closely reasoned paper GALLIE (*Journ. of Orthopaed. Surg.*, 1, 1919, 470) gives his views on the treatment of sepsis in bone. Undoubtedly chronic bone fistulae have been the bugbears of the hospitals in England—bugbears because their pathology has not been fully understood and the treatment, therefore, on wrong and ineffective lines. To scrape bone sinuses which have no sequestra at the bottom of them is futile. The removal of sequestra alone will, of course, cure many discharging sinuses, but there are a large number of cases from which the last fragments of dead bone have been removed and yet the sinuses obstinately refuse to heal. Most of such fistulae are at the ends of the long bones or in the tarsus—that is to say, in cancellous tissue. There is nothing for it in such cases but to remove bone widely and allow the soft parts to fall in. The wounds resulting from this operation should not be closed, however much faith one has in bipp or other antiseptic. Gallie lucidly discusses the various measures which have been applied to the treatment of chronic bone sepsis. He passes in review the antiseptic method, from carbolic to Dakin, the sterile blood clot method, Moorhof's spermoceti, and Hamilton's sponge methods, Senn's bone dust and decalcified bone chip technique, the bipp method, and the muscle flap operation. He reviews some personal experiments confirming Macewen's observations on the growth of bone (that is, the failure of the periosteum to form bone) and showing that bone grows much more rapidly from the shaft when the compact tissue has been chiselled into until cancellous bone or the medulla is reached. He infers that the sclerosed bone surrounding the chronic bone fistulae should be freely removed, and the endosteum and medulla given a chance to fulfil its osteogenetic function. He points out, however, that large cavities in bone (and it may be added particularly those in the head of the tibia and in the os calcis) fill when they heal, not with bone but with dense white fibrous tissue. He believes that as the years go by the fibrous mass will be replaced by bone. In the meanwhile the important thing is to get them filled with living tissue at the earliest possible moment, and in the presence of infection this must be accompanied by perfect drainage, necessitating the opening up of all pockets. The walls of the cavities should be removed to allow of the falling in of soft parts, so diminishing the space to be

filled. Even when sequestra are present Gallie advocates the wide removal of bone and inspection of the cavity. He believes the reflection of periosteum to be a mistake, as the function of this membrane is to vascularize the cortex of the bone it covers; he therefore chisels through it. As to closing the operation wound, he is emphatic against it. His rule is that the size of the drainage opening at its narrowest point shall be equal to half the total depth of the wound. This is a minimum. If muscles and fasciae tend to fall together over the wound he incises them transversely. He is thus able to inspect the bottom of the wound daily, and the wound is of the same character as a healing ulcer.

### 32. Treatment of Intractable Sciatica by Massive Air Injections.

LABORDE (*Gaz. hebdom. des Sciences Méd.*, August 24th, 1919) has obtained surprisingly successful results by the use of air injections in sciatica. He does not advise the method in slight cases or even too early in severe forms. His best results have been obtained in those extremely painful intractable cases in which no medicinal treatment has any effect and where only morphine gives a temporary relief. The method recommended is the last card to play. In the great majority of these cases the relief is decisive. Three injections may sometimes be required to produce complete cure, rarely a fourth, but if the first two are fruitless then it is useless to proceed. It is necessary to proceed *largam manu*, and to inject a large volume of air, which Laborde roughly estimates at 3 or 4 litres. The apparatus consists of a spray bellows, such as is used for a Paquelin cautery, the indiarubber tube of which is slipped over the barrel of a hypodermic syringe. In the barrel a piece of cotton-wool is placed to act as an air filter, and an ordinary hypodermic needle is mounted on the syringe. The needle is inserted at some point in the buttock and held in position by an assistant who pumps air under the skin until the part is much distended. The operator with strong massage disperses the air towards the iliac crest, the sacrum and the trochanter, until it is uniformly distributed over the whole region. On withdrawing the needle the puncture is closed with collodion to prevent the escape of air. A second injection is made somewhere in the upper and posterior part of the thigh and the air dispersed by massage upwards to the ischial region and downwards towards the popliteal region. The third injection is made somewhere about the external surface of the knee, with massage upwards and then downwards towards the ankle. Then the whole leg is massaged along the distribution of the sciatic nerve. Before commencing another séance it is advisable to allow the air retained from the last occasion to escape through a fairly wide needle inserted at the three places of injection.

### 33. Reunion of a Cancerous Fracture.

BERGERET (*Bull. de la Soc. Anat.*, June, 1919) gives notes of the case of a woman, aged 68, who had a spontaneous fracture of the femur at the site of a metastatic deposit from a primary cancer of the breast. After fifty days' immobilization of the limb with traction, consolidation took place—a remarkable and probably unique occurrence.

### 34. Paraffin Coating of Transfusion Tubes.

ALTON (*Journ. of Amer. Med. Assoc.*, August 16th, 1919) states the method he employed in the British casualty clearing stations in France for two years. The sterilized tubes are rinsed in a small amount of alcohol followed by ether. About one ounce of a paraffin-ether solution (hard paraffin 1 part, ether 80 parts) is poured in and shaken so as to bathe the entire surface, a small amount being allowed to pass through the cannula. The remainder is quickly emptied out through the top of the tube, and as the ether evaporates it leaves a thin, even coating of paraffin. The rubber stopper is similarly coated. The tubes may be used after a few hours.

### 35. How to Reduce the Mortality from Prostatectomy.

L. CASPER (*Berl. klin. Woch.*, June 2nd, 1919) reckons that the mortality from prostatectomy is variously estimated at 2 to 35 per cent., and that, even in practised hands, there is a mortality of 10 to 15 per cent. He maintains that, by paying attention to the following details, the mortality can be reduced. Death from shock can be practically eliminated by dispensing with spinal anaesthesia, under which he saw shock in several cases, one fatal. Pneumonia and heart failure can often be averted by dispensing with chloroform and ether anaesthesia and operating only under local anaesthesia (novocain-suprarenin, parasacral method). The risk of these complications can also be reduced by the exclusion of advanced



cases of myocarditis and arterio-sclerosis from the material selected for operation and by discouraging shallow breathing and lying on the back for long at a time, as both favour stasis in the lungs. No patient should be operated on who does not react satisfactorily to the phloridzin and indigo-carmin tests of renal function, even after this has been bettered by constant drainage of the bladder for a week, either by a suprapubic drain or a permanent catheter. The risk of haemorrhage, from which the author has lost one case, may be reduced to negligible proportions (1) by detaching the prostate from the comparatively non-vascular inner layer of its capsule, instead of from the more vascular outer layer (this entails incising the capsule more deeply and shelling out the gland in several bits instead of in one piece), and (2) by infiltrating the structures surrounding the prostate by novocain-suprarenin injected through a curved needle operating via the bladder. The risks of fatal sepsis, from which the author has lost 5 cases, may be much reduced by combining the suprapubic operation with perineal drainage. The gland having been shelled out, and the prostatic cavity plugged for a short time, its centre is pierced by curved forceps, the end of which can be felt under the skin a few centimetres above the anus. The skin is incised at this point, the forceps are passed through the opening thus made, and their blades are opened to seize a medium-sized drain, which is drawn up into the bladder, its upper end being secured by tampons in the cavity of the prostate, its lower end by stitches in the perineum. The wound in the bladder is now closed, except for a small opening of about 2 cm., and, most recently, the author closes it altogether. The perineal drain is left in place for eight to ten days, and is used for irrigation as well as for drainage. With all these technical improvements and more careful selection of cases, the author has reduced the mortality of his last series of 15 cases (not including two of cancer) to one, death in this case being due to heart failure.

## OBSTETRICS AND GYNAECOLOGY.

### 36. Glycosuria in Pregnancy.

CAMERON (*Canadian Med. Assoc. Journ.*, August, 1919) records his experience of five cases of glycosuria which occurred in a series of 468 pregnancies, together with three cases in the practice of others. In his first case a small amount of a reducing sugar was found in the fifth month of gestation, but cleared up after the sixth month. This was regarded as a transient lactosuria without confirmatory qualitative examination. The confinement was tedious, and chloroform was used to the extent of nearly 2 oz. Recovery was uneventful, and the patient went to the country to recuperate. A week after this she developed an insatiable appetite, and died in diabetic coma three weeks later. In the other cases the fullest qualitative examination was performed, and glucose was beyond question the sugar present. In two of the cases true diabetes existed. Although the labour in the first case may have had more to do with the onset of the diabetes than the chloroform, the latter may have induced the acidosis which precipitated matters, and its administration during confinement in such cases would appear to be most unwise. The disappearance of the glycosuria during the later months of pregnancy may be explained on the assumption that a diabetes of pancreatic origin existed before pregnancy began, but that the fetal pancreas served for both maternal and fetal organisms until delivery occurred, when the strain of labour made a demand upon the metabolism of the mother which could not be met in the absence of the previously temporarily engrafted pancreas of her child, and such a theory may account for the fact that some cases of diabetes improve during pregnancy. The condition of pregnancy calls forth a condition of hyperplasia of the pituitary body in order to produce the autocatalyser of Robertson which is expended upon the growth of the fetus, and this hyperplasia as it affects the posterior lobe produces decreased carbohydrate tolerance, and may result in glycosuria. Although the reduction of copper hydroxide by the urine of a pregnant patient may merely indicate a lactosuria which is of no serious import, the fullest tests should be performed in order to make certain that glycosuria is absent, since, if it exists, true diabetes may be actually present or about to become manifest. Should the glycosuria be controllable by diet, frequent examination of the urine may be sufficient to protect the patient during gestation, but it will not decide whether or not her diabetes is under control because of fetal hormones, nor will it differentiate a glycosuria due to hyperalimentation or secretion of

inverted lactose, and the only means of arriving at definite conclusions is by an estimation of the sugar in the blood.

### 37. The Nature of Eclampsia.

OBATA (*Journ. of Immunology*, May, 1919), following the observation by Dold that salt extracts of various organs are toxic and that the toxin can be neutralized by blood serum, tested the effects of salt extract of the placenta on animals. The injection of such extracts brought about within a few seconds clonic convulsions, violent dyspnoea, and then death in a few minutes in the majority of cases; in some the effects were more prolonged, death occurring after hours or days, but in all cases dyspnoea and convulsions were marked features. *Post-mortem* examination showed haemorrhages and the formation of thrombosis in the lungs and in the liver. There was also decreased coagulability of the blood—a feature that does not accord with the findings in human cases. On the other hand, by the frequent injections of sublethal doses (three times a day for seven to twelve days), terminating with a lethal dose, more typical results were obtained. There was increase in the coagulability of the blood; almost all showed pulmonary haemorrhages and thrombosis, fatty degeneration and sometimes partial necrosis of the liver, with cloudy swelling, fatty degeneration, and haemorrhage of the kidney. These findings correspond fairly closely with the appearances in the human being. Obata is quite alive to the facts that such changes are not confined to eclampsia, and that they may be experimentally produced by extracts of other organs. He found that normal serum had the property of neutralizing the toxic powers of the placental extract, whilst serum from eclamptic patients, especially during the attack, had this property considerably diminished. He concludes that the true nature of eclampsia is nothing other than an intoxication by the placental poison, which is made possible by a weakening in its normal capacity of neutralization on the part of the maternal blood.

### 38. The Nourishment of the Pregnant Woman.

E. P. DAVIS (*Canadian Med. Assoc. Journ.*, July, 1919) adverts to the fact that the pregnant woman requires protein food, although excess must be avoided on account of the risk of toxic symptoms. The assimilation of protein may be watched by observation of the patient at frequent intervals and by the examination of the urine. A patient accustomed to considerable quantities of protein should have it with, however, strict moderation in regard to red meats. Carbohydrates are the next most important element of the diet. Excess in this direction is shown by acetone in the urine. Vegetables and fruit supply substances needed for the development of the skeleton, and are useful as laxatives. Water is an important item and at least one quart should be imbibed daily. The pregnant woman is better without alcohol and tobacco. Plenty of fresh air should be secured, and the patient should rest after meals.

### 39. The Diagnosis of Early Ectopic Gestation.

HEANEY (*American Journal of Obstetrics*, July, 1919) claims that the history supplies the diagnosis in 95 per cent. of these cases. He believes that the textbooks are misleading in some respects. To emphasize the pain in these cases is like dwelling upon the emaciation in cancer of the uterus. Many patients have not the least pain prior to rupture. Amenorrhoea likewise is too prominently mentioned in the books. Irregular intermittent bleeding over a considerable period is very suspicious, and every woman with symptoms suggesting a threatened, imminent, or incomplete abortion should be regarded as possibly having an ectopic pregnancy. The passage of a decidual cast is another feature over-emphasized in some textbooks, as also are the enlargement of the uterus and the presence of breast signs or nausea. The writer advocates exploratory posterior colpotomy in doubtful cases.

### 40. Pregnancy in a Prolapsed Uterus.

ANDÉRODIAS (*Journ. de Méd. de Bordeaux*, August 25th, 1919) reports an unusual case of pregnancy in a uterus so prolapsed that the cervical portion protruded from the vulva. The patient was a multipara in her third pregnancy. At the end of her first pregnancy the uterus prolapsed and remained so. Three years afterwards she conceived again and went to full term. In spite of a hysteropexy performed three years later, the uterus could not be restored to its normal position. Again, at the age of 31, she became pregnant, and at the time of examination the pregnancy had reached the eighth month.

Andérodias considers that such rare cases usually go to full term, and that, if proper precautions be taken, infection of the uterus will not occur after childbirth.

**41. Formation of Uniovular Twins.**  
STREETER (*Bull. of Johns Hopkins Hosp.*, August, 1919) discusses the development of uniovular twins in the light of Mateer's specimens. He suggests that the condition is due to the fission of the embryonic node prior to the opening up of the amniotic cavity. If both buds are of approximately equal size their subsequent development may proceed in an orderly manner. If the one—as in Mateer's ovum—is much smaller than the other, it will probably cease to develop. Careful scrutiny of the region of the insertion of the umbilical cord into the placenta might occasionally reveal the presence of two minute epithelial vesicles, indicating the existence of such a twin.

**42. The Radical Cure of Pelvic Deformity.**  
JELLETT (*Surg., Gyn., and Obstet.*, August, 1919) holds that pelvic deformity in women should be treated by surgical interference with a view to cure, and not merely with a view to delivery during labour. Pubiotomy when not followed by bony union provides the desired result. Bony union may be avoided by allowing early movement after operation and dispensing with a pubiotomy belt after the fourth or fifth day. With the above aim in view the operation should not be delayed until the patient has reached the second stage of labour, from the existence of which most of the dangers of the operation arise, but should be done as long before labour as possible. The ideal time is before the patient has become pregnant at all, provided there is reason to expect that its effects will be required. The fact that the operation is not suited for general practice should not deter obstetrical specialists from considering the whole subject from the point of view of orthopaedic surgery. The author's claims are supported by tables of the results of pubiotomies performed at the Rotunda Hospital by himself and his predecessors.

## PATHOLOGY.

**43. Experimental Production of Paratyphoid Fever.**  
BESREDKA (*Ann. de l'Inst. Pasteur*, August, 1919) points out that hitherto attempts have failed to produce anything like the typical conditions of typhoid or paratyphoid fever in the usual laboratory animals. Rabbits, guinea-pigs, and mice are certainly sensitive to the inoculation of the virus of paratyphoid B when it is injected subcutaneously, intraperitoneally, or intravenously, but even a feeble dose is apt to cause death quite quickly. They are practically invulnerable to feeding experiments even with large doses of living bacilli, and no change is apparent. The organisms pass through the pylorus but find in the small intestine a barrier to their dissemination in the body. Besredka has succeeded in breaking down that barrier. He finds that the previous ingestion of ox bile lessens the natural resistance, though the bile itself is quite inoffensive. If, then, paratyphoid bacilli are mixed with the food, the rabbit, after an incubation period of one to four days, begins to lose weight; its temperature falls, and a profuse diarrhoea sets in, and death usually occurs in about a fortnight. *Post mortem*, one finds marked congestion of the small intestine with desquamation of the epithelium and swelling of Peyer's patches. The distension of the gall bladder with clear or colourless bile in which the organism appears in pure culture is a striking occurrence. Generally also the organism can be recovered from the blood. On the other hand, if paratyphoid bacilli are injected into the ear vein of a rabbit, it may be impossible to isolate them afterwards from the blood, and even if they can be isolated, one is not justified in concluding that septicaemia was responsible for the death; but the organisms can be recovered from the gall bladder, the duodenum, and jejunum, though they are absent from the viscera. If the animal be previously prepared by the ingestion of bile, intravenous inoculation of a very feeble dose of virus brings about rapidly fatal intestinal lesions. Besredka thinks that the ease with which the rabbit can be sensitized by means of bile, whether the infection be introduced by the mouth or through the veins, shows that the natural immunity to typhoid or paratyphoid virus is, to a great extent, a function of the intestine.

**44. Estimation of Sugar in the Blood.**  
MACLIVAN (*Biochemical Journal*, July, 1919) gives details of a method for the estimation of sugar in blood which is simple in application and can easily be utilized for clinical

purposes. It is claimed that the results are very reliable and more exact than in the recent picric acid method of Benedict. The blood is heated in an acid sodium sulphate solution to separate the greater part of the proteins by coagulation, any remaining traces being removed by the addition of a little dialyzed iron. When this is filtered a clear protein-free fluid is obtained. A measured portion of this filtrate is boiled, according to precise instructions, with an alkaline copper solution containing potassium iodate and iodide. On cooling, the solution containing the reduced cuprous oxide in suspension is treated with a slight excess of hydrochloric acid, which, interacting with the iodate and iodide, liberates iodine equivalent to the amount of iodate in the solution; at the same time the cuprous oxide is dissolved and cuprous chloride is formed. The amount of sugar present is calculated by ascertaining the amount of iodine used up, sodium thiosulphate and starch solution being employed in the titration. Tables are given in the paper for the glucose equivalents. The heating of the sample has to be done very carefully, but otherwise the technique is quite easy. The method enables one to obtain accurate estimations of sugar in 0.2 c.cm. of blood. The blood should be tested on removal, for glycolysis takes place very quickly and in about two hours its original sugar content is halved.

**45. Prevention of Anaphylactic Shock.**  
KOPACZEWSKI and VAHRAM (*C. R. de l'Acad. des Sciences*, August 4th, 1919) found that if, ten minutes before the "assaulting" injection of serum into guinea-pigs, 2 to 3 c.cm. of a 1 per cent. solution of sodium oleate were injected into the jugular vein, the grave anaphylactic accidents were suppressed. The same results were obtained with 0.5 per cent. solution of saponin, and with 1 c.cm. of 1 per cent. solutions of taurocholate and glycocholate of soda. The only character these substances seem to have in common is their property of lowering the surface tension. The authors hold that the shock is due to the interaction of colloids.

**46. Dengue and Sand-fly Fever.**  
MEGAW (*Indian Med. Gaz.*, July, 1919) holds that though at first sight dengue and sand-fly fever seem to be quite distinct from each other, yet the evidence is by no means convincing, and none of the points of distinction hitherto put forward serves definitely to separate them as two diseases. He would have them all called dengue, merely adding the terms three-day fever or seven-day fever to denote the particular type. Those who consider sand-fly fever as being different from dengue lay stress on the absence of a rash and the absence of a secondary rise of temperature, but it must be admitted that in many outbreaks of undoubted dengue numbers of the cases show neither rash nor secondary fever. If it be invariably true that the *Culex* and *Stegomyia* mosquitoes are the insect carriers of dengue, and the *Phlebotomus* the sole carrier of sand-fly fever, then the diseases must be considered distinct, but he thinks that much more experimental work on the mode of conveyance of the diseases by insects must be done before this can be definitely accepted.

**47. The Intracutaneous Tuberculin Test.**  
AT the Berlin University polyclinic for diseases of the lungs, F. KLOPSTOCK (*Berl. klin. Woch.*, August 4th, 1919) has applied the intracutaneous tuberculin test to fifty cases suspected of tuberculosis. He gave four simultaneous injections in the carefully cleaned skin of the forearm, the strengths of the solutions being 100 mg., 10 mg., and 1 mg. of tuberculin and 1/5 mg. of glycerin-boillon in 0.1 c.cm. of fluid. This fourth injection was given as a control. A comparison of the intracutaneous with the subcutaneous test (the subcutaneous injection being given after the intracutaneous injections) showed that the reactions did not run parallel. In some cases reacting violently to the intracutaneous test a positive reaction to the subcutaneous test was obtained only when 5 mg. and 10 mg. were given. In other cases a subcutaneous injection of only 0.5 mg. was sufficient to give a positive reaction, whereas a positive reaction to the intracutaneous test was obtained only with the maximum dose, 100 mg. But the intracutaneous test was undoubtedly the more sensitive, and in no case of a positive reaction to other tuberculin tests did the intracutaneous test fail to be positive also. On the other hand, there were three of the fifty cases in which the subcutaneous injection of 10 mg. of tuberculin failed to raise the temperature, whereas the intracutaneous test was definitely positive. The author found the intracutaneous test of no value in distinguishing between latent and active tuberculosis, but he considers it superior to the subcutaneous test in many respects.