ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

Case of Mixed-Celled Leukæmia. By W. W. Cadbury and W. T. Cummins (University of Penn. Med. Bull., October, 1907).—The patient was a farmer, aged 56. For two years he had been much run down, and suffered from a cough. During the summer of 1906 he consulted a doctor who told him his spleen was enlarged. Since June, 1906, there had been marked oedema of the hands and feet.

When admitted to hospital on 7th September, 1906, there was oedema of both legs and of the left arm and hand. The spleen was greatly enlarged, extending 2 inches below the level of the umbilicus. The supraclavicular glands, especially on the left side, were also greatly enlarged, and most of the other superficial glands were larger than normal. There was evidence of a tuberculous lesion in the upper lobe of the right lung.

From 20th September to 11th October the blood was examined on six different occasions. The red corpuscles during those times averaged about 3,000,000 per c.m.m., and the haemoglobin ranged from 50 to 60 per cent; the white corpuscles varied between 156,000 and 250,000 per c.m.m. Of these, the polynuclears varied from 62:3 to 47 per cent, the small lymphocytes from 12:6 to 20:4 per cent, the large lymphocytes from 3:3 to 7:6 per cent, and the marrow cells from 11:5 to 18:4 per cent.

The patient left hospital on 12th October, and as regards the further progress of the disease little is known, except that he gradually became weaker and the dropsy increased. He died on 17th November, 1906.

At the post-mortem examination there was generalised oedema of all the subcutaneous tissues, with considerable fluid in the abdominal and left pleural cavities. The spleen was greatly enlarged, weighing over 40 oz.; the liver was only slightly enlarged. The mediastinal, bronchial, and mesenteric, as well as all the superficial, glands were greatly enlarged. There was a fibroid and caseous tuberculosis of the right lung; the left was emphysematous.

On microscopic examination there was found to be a dense infiltration of the subpericardial tissue with leucocytes, mostly lymphocytes, though there were also a few polymorphonuclears. There was a similar infiltration throughout the liver, being most pronounced in the interlobular areas. The eosinophile cells here were very numerous, but there were also lymphocytes and polynuclear cells. The cortex of the kidneys was affected in a like manner, the prevailing cell being the lymphocyte. The spleen showed a diffuse lymphoid hyperplasia, but eosinophile cells were present in large numbers, together with a few polymorphonuclears. The lymphatic glands presented the same diffuse lymphoid hyperplasia. The bone-marrow seems to have consisted chiefly of cells with granular plasma, and red corpuscles.

—W. K. Hunter.

Case of Generalised Sarcoma, with Blood Changes. By F. G. Bushnell (Bristol Med.-Chir. Jour., December, 1907).—The patient was a girl, aged 21. She took ill suddenly with sickness and vomiting three weeks previous to admission to hospital. On admission there was considerable anaemia, with enlarged glands in the neck and axillæ. The spleen extended to the costal margin and the liver to half an inch lower than this. There was a general tenseness of the abdomen, with a tumour mass in the
pelvis. The breasts were tense, hard, and nodular. There were purpuric spots on the arms and legs. Examination of the blood showed the red cells to number 2,960,000 and the white cells 13,400; the haemoglobin was 50 per cent. There was a marked relative lymphocytosis, the following being the proportions of the various white cells:—Polynuclears, 13 per cent; large lymphocytes, 37·3 per cent; small lymphocytes, 29·1 per cent; transitionals, 12·6 per cent; myelocytes, 3·4 per cent; eosinophiles, 1 per cent; large hyaline, 2·1 per cent.

The patient died three days after admission, and at the post-mortem there were found sarcomatous growths involving both ovaries, the retroperitoneal glands, mesentery, omentum, portal fissure, liver, and breasts. The rib-marrow was fatty.

The relative lymphocytosis of the large cell type in this case suggests a relationship with lymphatic leukaemia, and would seem to support the view taken by Banti, that lymphatic leukaemia is a true tumour development, a sarcomatosis of lymphatic elements.—W. K. Hunter.

Case of Chronic Splenomegalic Polycythaemia. By L. G. I. Mackey (Birm. Med. Rev., September, 1907).—The patient was a fairly well developed man, aged 51. He had been in perfectly good health until June, 1904, when he had a severe attack of influenza which laid him off work for six weeks. Ten days after starting work he was seized, while walking in the street, with a tingling and stiffness in his left leg so that he could scarcely walk home. He went to bed, and the leg became greatly swollen and painful. It remained in this state for six weeks, when the other leg became affected in a similar manner. The swelling in the legs subsided a few weeks later. He was admitted to hospital in February, 1905, when it was noted that there was a universal congestion of the skin, and that the tongue was blue. The heart and lungs were normal, and the urine contained no albumen. The veins of the legs were greatly distended. There was a good deal of pain in the legs, and walking was difficult. The condition at this time was regarded as thrombosis of the inferior vena cava following influenza.

The patient was discharged from hospital at the end of a month's residence, but he was never well enough to do any work, and a year later he was re-admitted with swelling and weakness of the legs. The cyanosis was now more marked, the liver and spleen were both enlarged, and the red blood corpuscles numbered over 8,000,000 per c.mm.

A year later (30th March, 1907) he still had the weakness in the legs. His face, ears, and nose at this time were noted to be of a darkish red colour, but not quite of the cyanotic hue met with in congenital heart disease. The skin of the rest of the body was bluish red in colour, the feet and legs being almost purple, while the hands were only slightly tinted. The veins of the skin were prominent and distended, especially in the lower limbs. The mucous membranes were also dark blue in colour. At this time there was no oedema. There was no history of vomiting of blood or of blood in the motions. The liver was greatly enlarged, its lower edge being at the level of the umbilicus. The spleen was correspondingly enlarged, reaching below the umbilicus. For the past two years there had been a steady increase in the size of the liver and spleen, for at the beginning of that time the spleen was not palpable and the liver only extended to one inch below the costal margin. The heart had likewise increased in area, the apex impulse being one inch outside the umbilicus, and the right border half an inch to the right of the sternum. The heart sounds were most often free from murmur. The pulse averaged about 76, and the blood-pressure ranged from 140 to 170 mm. Hg. The lungs were normal.

The blood was examined ten times from March, 1906, to March, 1907. The red corpuscles varied from 7,120,000 to 9,600,000 per c.mm., and the white cells from 7,000 to 13,000. The haemoglobin ranged from 160 to 175 per cent. A differential count of the white cells showed no abnormality, and there were no poikilocytes or nucleated corpuscles amongst the reds.

The patient had been treated by a variety of drugs, such as arsenic,
quinarine, diglital, iodide of potassium, adrenalin, thyroid gland, erythrol tetra-nitrate, but with no apparent improvement, at least in the way of lessen ing the cyanosis, the number of the red corpuscles, or the size of the liver and spleen.

In discussing this case, the author gives a synopsis of 46 similar cases which he has gathered from medical literature. Of these, 15 died, and the post-mortem appearances are described in 13 of them. The spleen in all showed the blood spaces dilated and engorged with blood corpuscles. The liver was likewise greatly engorged with blood. In 8 of the cases the bone-marrow was examined, and in 7 the fat in the shafts of the long bones was replaced by an active erythroblastic tissue. In the eighth case the marrow was not examined microscopically, but it seemed normal to the naked eye. The symptomatology of the condition is also discussed in some detail, as well as its pathogenesis. In this connection Saundby's views are quoted. He "regards the primary condition as a cerebro-spinal neurasthenia, causing vasomotor spasm, with engorgement of the capillary and venous circulation and congestion of the internal organs, especially the liver and spleen, due probably to the toxins of influenza or other infections. He believes that the vasomotor spasm causes at first a generalised asphyxia of the skin, which ultimately stimulates the bone-marrow to abnormal activity, and thus increases the number of red cells, which, by increasing the viscosity and specific gravity of the blood, still further hampers the circulation, and establishes a vicious circle whereby the existing conditions are aggravated and perpetuated."

—W. K. Hunter.

A Case of Acquired Dextrocardia associated with Advanced Phthisis. By J. Herbert Young, M.D., Boston (Boston Med. and Surg. Jour., 12th December, 1907).—The case was considered unique in so far that, during the transposition of the heart from left to right, it was constantly under observation. The displacement took place gradually, and became more marked as signs of cavity were elicited at the right apex. The altered position of the heart gave rise to no symptoms.

The patient was a girl, aged 9 years, and was admitted to hospital on 4th December, 1906. At that date the physical signs were as follows:—
Cardiac impulse in fifth space, 7 cm. to left of middle line. By percussion the left border of heart corresponded. Sounds normal. Lungs: diminished movement on right side. Right front, and from apex to midscapula behind, dull to percussion. Bronchial breathing at right apex behind. Scattered dry râles in front and moist râles behind. Left lung normal.

25th February, 1907.—Heart: visible pulsation second, third, and fourth spaces at right margin of sternum. Apex beat 4 1/2 cm. to left of middle line. Right border 5 1/2 cm. to right of middle line. Lungs: bronchial breathing over upper half right front.

22nd April.—Heart: Pulsation first, second, and third spaces in right parasternal line. Apex beat best felt third space, 6 cm. to right of middle line. Normal area of dulness resonant. Lungs: Amphoric breathing and voice sounds above right clavicle in outer half of first, second, and third right spaces. Bronchial to amphoric breathing at right apex behind.

7th June.—Heart: Cardiac impulse best felt in third space, 7 cm. to right of mid sternum. Upper border at second rib, left border at right margin of sternum, right border in right mammary line. Sounds regular with no murmurs. Lungs: Resonance (not tympanitic) from apex to third rib external to right mammary line, with amphoric breathing and breath sounds and "cracked pot" percussion. In the back there was dulness below lower angle of scapula, fair resonance above with bronchial to amphoric breathing.

About twenty-five cases of dextrocardia associated with chronic pulmonary tuberculosis, without the presence of air or liquid in the pleural cavities, have been reported, but only four have been seen before and after displacement. In all cases the right lung showed signs of chronic phthisis, with the left but little involved, and in two there was a cavity at the right apex.
In two cases with cavity at the left apex the heart was pulled upwards and outwards. In a third case the presence of a cavity was diagnosed (and confirmed later) from the altered position of the heart.—Geo. A. Allan.

Report of a Case of Dissecting Aneurysm with Rupture of Aorta: Autopsy. By W. E. Paul, M.D., and W. A. Brooks, M.D., Boston (Boston Med. and Surg. Journal, 28th November, 1907).—The patient was a merchant, aged 57 years. He had taken alcohol freely, had had specific disease twenty years ago, pneumonia ten years ago, was operated on for appendicitis three years ago, and more recently had a hernia through the operation wound. Previous to the onset of the fatal illness he had suffered from indigestion, and was feeling below par, but on the day of onset he was feeling well, and ate a lunch of oysters, crabs, apricot pie, and coffee. The seizure took place one hour after this when he was playing cards. A severe pain shot across the lumbar region of both sides and up towards the scapula, but not towards the abdomen. It was described as a "red pain," dull, steady, and boring in character, and was accompanied by a feeling of nausea. The patient's expression was anxious. He was pale, but his pulse did not alter. He vomited as a result of drinking freely of warm water, and morphia relieved the pain sufficiently to enable him to drive home.

The condition was diagnosed as acute indigestion. While the pain had never been quite away, it became much more severe nine hours after the onset, and was dull, steady, and constant, causing the patient to groan with each breath. As no flatus had passed, and as vomiting had continued at intervals, with a pulse of 100 and evidence of shock with marked pallor, intestinal obstruction was thought of. During the next day or two his condition did not materially change. Hiccough and spells of dyspnoea were noted. Pallor continued, and pain was elicited over the descending colon. On the fourth day an "uneasy grumble" developed in the lumbar region. On the fifth day he felt well, ate a good breakfast, and took a nap after it. Later in the day when passing water he gave a piercing scream, grasped his right loin, and fell forward dead. It was then realised that a large internal haemorrhage had been the cause of the fatal issue.

At the autopsy the peritoneal cavity was found to contain a moderate amount of free fluid blood, and the retroperitoneal tissues were swollen, black-red in colour, and infiltrated with a considerable quantity of blood-like material. The intestines were not obstructed. The right pleural cavity contained an enormous quantity of fluid blood and blood clot. At the point where the aorta passes through the diaphragm there was a ragged opening in the wall of the aorta.

On section, the aorta showed, extending along its wall as far down as the coeliac axis, a black-red coat, 2 to 3 cm. thick, which consisted of a layer of blood-clot-like material, apparently resting between the muscular wall of the aorta on the inside and a layer of adventitia on the outside. The intima showed, all along the course of the vessel, innumerable roughened plaques, fibro-calcareous in instances, and the central portions of many of them showed ragged openings which extended into the layer of blood clot and fibrin just beneath the dissected layer of adventitia. The ragged opening in the aorta was margined by arteriosclerotic tissue, and there was a ragged interruption in the continuity of the surrounding layers of adventitia, fibrin, and blood clot. The case ran its course in five days.—Geo. A. Allan.

The Medical versus the Surgical Treatment of Gastric Ulcer. By John H. Musser, M.D. (Amer. Journ. Med. Sciences, December, 1907).—Musser bases his paper upon an exhaustive study of 1,871 cases of gastric ulcer and 316 cases of duodenal ulcer, collected from the accumulated literature since 1897. The cases selected are only those which have been reported in full detail. Duodenal ulcer has been reserved for a future communication. In addition, a study of 586 cases has been made, based upon private communications from the members of the Association of
American Physicians. He has kept apart from the above cases, and used as control, the work of the Mayos, Robson, Moynihan, Munro, von Mikulicz, and of those who took part in the discussions of the Royal Medical and Chirurgical Society in 1906. Many other analyses of cases were utilised for comparison.

He comes to the following conclusions:—

Gastric ulcer is a medical disease. With complications and sequelæ, it is sometimes a surgical disease. If perforation occurs, it becomes a surgical affection at once. If haemorrhage occurs acutely, it is rarely a surgical affection; if repeated and chronic, it is a surgical affection. If the ulcer is productive of perversion of secretory function alone, it remains a medical affection. Even if pyloric spasm attends the hyperacidity, it does not necessarily take the case beyond medical care. Only when motor symptoms become prominent should such patients be operated upon. Signs of obstruction, dilatation, hour-glass contraction, or adhesions indicate operation. If, in spite of medical treatment, the symptoms become continuous, and if haemorrhage recurs and secondary anaemia arises, gastric ulcer is a surgical disease. The extraordinary frequency of chronic gastric ulcer, with sequelæ requiring operation, is due to neglect of treatment of the ulcer in its incipiency.

Very proper emphasis is laid on the selection of a surgeon of experience in gastric work, and on the necessity of a continuance of medical, hygienic, and dietetic treatment after the operation.—Arch. W. Harrington.

Studies on Arteriosclerosis, with Especial Reference to the Radial Artery. By W. S. Thayer, M.D., and Marshal Fabian, M.D. (Amer. Journ. Med. Sciences, December, 1907).—The authors have examined clinically, and microscopically after death, the radial artery in sixty-one cases. For the sake of comparison, bits of the aorta from a point just above the valves, and from a point just above the origin of the mesenteric artery, as well as a piece of the mesenteric vessel just below its point of origin, were also examined. The age of the patients varied from 56 days (in a seven months’ child) to 83 years. It is clear from their researches that an elastic-muscular thickening of the intima appears in the radial artery at a relatively early age—that is, within the first decade. With growth, and the associated increase in pressure, the artery strengthens itself—in the intima by the separation of one or more fresh strands of elastica from the inner surface of the fenestrated membrane, and the appearance about these of a few connective-tissue cells and longitudinal muscle fibres; in the media and adventitia by a gradual hypertrophy and hyperplasia. At the end of the second decade, when full growth has been reached, there is little change in the thickness of the adventitia. The intima, however, tends to become slightly thicker, from the development of more elastic tissue and smooth muscle fibres, while the depth of the media shows a slight increase. Gradually, however, during the third and fourth decades, especially in individuals subjected to heavy physical strain, distinct areas of connective-tissue thickening appear in the intima; the regular elastic strands which are separated from the interna are replaced by numerous finer, more irregular fibrils, while, on the outer side of the elastica, a delicate layer of connective-tissue also appears. Opposite these areas, the elastic interna is less deeply undulating and seems somewhat stretched, while connective-tissue begins to appear between the muscle fibres of the media. The yielding tube thus fortifies itself against the increasing strain. But these changes are not marked until the fifth decade, when the artery begins to assume a very different appearance. The vessel wall now tends to stretch, and additional support is obtained by the development of firm connective-tissue in the intima, along with an increase in that upon the medial side of the interna and in lesser degree throughout the media. The vessel is usually felt then as a firm tube. Finally, in these sclerotic vessels degenerative changes set in, somewhat different from those in larger arteries. They consist of local areas of coagulation necrosis with calcification, especially marked in the deep layers of the connective-tissue thickenings of the intima,
and in the muscle fibres of the media, particularly opposite these points. These changes may go on to actual bone formation. It is thus evident that it may be often difficult to draw a sharp line between the normal and the pathological radial artery.

In the mesenteric artery, it was noted that calcification is apparently much less frequent than in the radials, and in several instances plaques were seen, with fatty softening of the deeper layers of the intima and superficial proliferation—a picture the authors have never observed in the radial.

In the aorta, the elastic-muscular intima thickens with age. The regressive changes are prone to be in the form of necrosis, with fatty change and softening, associated with active proliferation of the intima on the surface of the plaque.

The authors conclude that in old age a thickened radial artery represents conditions which are normal and are to be expected, not only in peripheral but in central vessels. An unduly thickened radial at an earlier age implies that the vessel has been subjected to unusual strain, or from inherent weakness has been unable to cope with ordinary strain. As a rule, although there are striking individual exceptions, when the thickening of a radial artery is unduly marked, similar changes occur in the intima of the mesenteric artery and aorta. The distribution of such changes is irregular, but the unduly palpable radial artery may be reasonably regarded as a signal of danger.

—Arch. W. Harrington.

SURGERY.

The Use of Local Anaesthesia in the Treatment of Fractures. By Dr. Guido Lerda (Zentralbl. f. Chirurgie, December, 1907).—The author expresses great surprise that although local anaesthesia is now very largely employed in many surgical procedures, and although the pain caused by the reduction and fixation of a fracture is very acute, yet very little use has been made of this method of treatment. He puts forward the following objections to a general anaesthetic:—(1) The need for several assistants; (2) the struggling that usually takes place; (3) the danger of giving a general anaesthetic to an unprepared patient. Thus, one ought not to give a general anaesthetic as routine treatment.

Conway in 1885 first employed "cocaine as an anaesthetic in fractures and dislocations." Reclus recommended its use before transporting patients suffering from fractures, and Braun recommended its use in fractures of the ribs, clavicle, skull, &c. The author has employed it during the last two years on thirty cases, with great benefit to the patients. The chief point which must be attended to is the exact localisation of the site of the fracture so that the anaesthetic can be injected there. The solution (½ per cent cocaine in normal salt solution) has more effect when to it is added 1 drop of 1 in 1,000 adrenalin for every c.m., the effect of this being a marked lessening of the blood poured out between the ends of the bone and into the surrounding tissues. Five to 8 cg. of cocaine can be freely injected between the fragments, into the medulla, and underneath the peristennn and into the surrounding tissues. After an interval of from 6 to 10 minutes it is found that the fragments can be manipulated freely without pain, and that the muscular spasm has passed off, allowing one to reduce and immobilise the fracture in a very satisfactory way.

The fracture which the author has most often treated in this way is that at the lower end of the radius, but he has found it equally satisfactory in fractures of both bones of the fore-arm and of the humerus. At the elbow itself the treatment is not so satisfactory, as it is so hard to definitely localise the site of the fracture; nor is this treatment available for fractures of the femur (with the exception of fractures at the lower end of that bone). In fractures of the bones of the leg local anaesthesia is very useful, as also in fractures of the bones of the hand and foot, clavicle, ribs, nose, &c.