The effect was remarkable. I was called away, but returned in three hours to find the child's appearance wonderfully improved. A feed had been taken, and the depression of the fontanelle, which had been very marked, had vanished, and the patient's appearance was no longer that of a dying child.

A second transfusion was performed a few hours later in the hope of intensifying this evidently beneficial effect; 25 c.cm. of citrated blood were easily introduced, using the same syringe and needle all the time, and necessitating three introductions of the needle into the mother's vein and three into the child's vein.

Unfortunately twenty-four hours later the child went into convulsions and died, but I do not associate this with the transfusion in any way, for there were many pus cells in the urine, and there was probably a general blood infection. There was no difficulty in passing the needle into the same wound in each vein each time, and there was not the slightest reflux of blood alongside the needle from the baby's vein; nor, when the needle was removed, was there any escape of blood so long as the peripheral end of the vein was kept raised by the aneurysm needle. Giving antimony intravenously in a stout subject with small veins when dissection was necessary I have found such reflux alongside the needle troublesome, but blood is a more viscid fluid.

Assuming the total blood weight to be one-thirteenth the body weight, it seemed inadvisable to introduce more than 25 c.cm. of blood, and this could easily have been done had it been desirable.

Certain points of detail perhaps call for comment. The child should be kept warm, and as far as possible covered up during the proceeding, about which there need be no great hurry.

The upper end of the saphenous vein was selected because it was one of the largest superficial veins, and was in immediate continuity with the much larger femoral vein, so that the blood would be easily and quickly removed, preventing any tendency to reflux; also there was not the same danger of air embolism which the larger neck veins might offer. It might be urged that the exposure of the mother's vein by incision is unnecessary, but it prevents any possible bungling in the withdrawal of the blood, and the only real need for speed is during the process of transfer.

The very speedy recovery of the child from its collapsed state makes me doubtful whether the depression in the fontanelle and the collapse of an infant in severe gastro-enteritis is as much due to dehydration as to toxæmia, though it is probably caused partly by both. As a practical point arising out of this reflection, the question may be asked whether salines can ever approach whole blood in value, even in early childhood, for the child is suffering from something more than loss of fluid, something salines cannot influence perhaps.

With insufficient experience to express a definite opinion, I would suggest that blood transfusion might prove of very real service in severe degrees of collapse in infancy, whether from gastro-enteritis or from other cause.

THE TYPE OF CASE THE BONESETTER GETS.

BY

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DURING the past year it has fallen to my lot to manipulate a considerable number of cases of knee-joint trouble, in some the result of adhesions, in others of displaced semilunar cartilages.

The following two cases are, I think, worthy of record as illustrating, first, the type of case the bonesetter often cures and acquires fame in so doing, and, secondly, that which he cannot hope to cure and which sooner or later must come to the surgeon for operative treatment. The youth of one of the cases is rather exceptional. Cases have actually been operated upon at the thirteenth year,¹ and recently a case of reduction of displaced semilunar cartilage at 4½ years of age has been reported.²

CASE I.

A. B., aged 10 years, seen on March 12th, 1924, said he had fallen from the top of a wall nine weeks previously and hurt his right knee so that it was swollen and could not be straightened. At the end of four weeks he was able to get about on it, but the joint was unstable, and he fell frequently. He was taken to a consulting surgeon, who diagnosed a displaced internal semilunar cartilage and advised that a knee-cap be worn. The knee, however, still continued to give way, and two weeks previous to being

seen by me he fell down some steps and had been unable to straighten the knee since.

Condition on Examination.—The knee was normal in appearance and all movements were complete except extension, which was not quite complete, there being a sensation of some resilient structure blocking it. This was so slight that it was difficult to realize that there was really anything wrong with the joint. There was no pain on movement nor tenderness on pressure, and the only reply the boy gave to questions was "It's here," accompanying the remark by rubbing the inner side of the joint with his hand. He was then asked to walk, and the disability at once became apparent—he could not get the heel to the ground by quite two and a half inches, and limped across the floor on his toes. The quadriceps was very weak and flabby.

Treatment.—The displaced semilunar cartilage was reduced by full flexion, internal rotation, and extension. The boy was able to walk across the room immediately. A back splint was then applied and massage and electrical stimulation of the quadriceps carried out thrice weekly. No movements of any kind were permitted for a fortnight in order that healing of the torn parts should take place undisturbed. At the end of a fortnight the back splint was discarded and a bandage substituted. In spite of some tenderness over the inner side of the knee movements were begun. At the end of another fortnight the bandage was left off and treatment continued in the gymnasium for another week, when the boy was discharged.

During treatment in the gymnasium the joint was subjected to all sorts of twisting movements, but it stood the test, and the subsequent history proves the completeness of the cure—there has been no further trouble. This is rather remarkable in view of the length of time which elapsed between the first accident and the manipulation.

CASE II.

Miss C., having hurt her right knee two days previously, was brought to me on the evening of Easter Monday. She gave a history of its having been "out" many times before, but she had always been able to get it "back" herself; on this occasion she could not.

Condition on Examination.—The knee was flexed, much swollen, and very tender; all attempts to move it were strongly resisted by powerfully contracted muscles and produced so much pain that they had to be abandoned.

Treatment.—Next morning she was given an anaesthetic and the knee fully straightened quite easily by manipulation. Extension was accompanied by a sound as of something tearing inside the joint. After-treatment as in Case I was carried out, but, owing to the history of frequent displacement, operation was advised. Before this was done the cartilage again became displaced and again was reduced by manipulation—this time without an anaesthetic.

After this there was always a feeling of something moving inside the joint, and at operation the cartilage was found to be detached along the periphery in its posterior two-thirds—a condition to which I give the name "sickle-shape." In this position the detached portion of the cartilage is bent diagonally across the front of the internal condyle of the femur, so that any reduction which could take place by manipulation would result in tearing away more of it from the coronary ligament. Removal of the whole cartilage resulted in a complete cure.

REFERENCES.

¹ Jones and Lovett: *Orthopaedic Surgery*, p. 31. ² Christopher: *Journal of Bone and Joint Surgery*, vol. vi, No. 4, October, 1924, p. 918.

THROMBO-ANGIITIS OBLITERANS.

BY

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THE interesting paper by Professors Telford and Stopford of Manchester on thrombo-angiitis obliterans, published in the *BRITISH MEDICAL JOURNAL* of December 6th, 1924, provides a reasonable diagnosis in a somewhat obscure case recently under my care. The parallel as regards signs and symptoms is close, but as there is a striking contrast in the matter of age and course to date it is thought worthy of record.

The patient is about to complete his 86th year, and, although a lifelong fisherman, I am sceptical of any ground for connecting this fact with the present condition, as is done in one recorded case. The family history and personal history are both exceptionally good.

Some months previous to the first attack there had been acute suppurative of a corn situated over the metatarso-phalangeal joint of the great toe of the right foot. In the beginning of March, 1924, after a slight attack of bronchial catarrh and flatulence, sudden pain was felt in the upper third of the right calf. When I examined the leg several hours later the foot was swollen and oedematous to the ankle, especially over the dorsum of the foot, and of a reddish colour. The limb was stone cold as high as the junction of the middle and lower thirds of the leg. Walking was impossible on account of the pain, which was described as "cramp-

like." Relief was obtained when the limb was raised, but when in bed at night there was a subjective sensation of heat in the stone-cold foot; this was relieved to some extent by resting the foot outside the bedclothes. No arterial pulsation could be detected below the level of the popliteal space, and a provisional diagnosis was made of arterial obstruction somewhere in the region of the popliteal bifurcation. There was an old-standing ingrowing toenail on the great toe of this foot, and the ingrowing portion was removed without injury to underlying tissues. Massage was avoided, and treatment consisted of rest with the limb raised, and daily application of methylated spirit, ether, and Huxley's powder, to minimize the risk of sepsis. Little else was required, as the patient was unusually healthy for his age. The heart, which was irregular, was supported from time to time, but perhaps unnecessarily, and at one period potassium iodide was tried, until the excretion of iodine in the saliva caused some faucial irritation and it was discontinued.

At the end of about three weeks the appearance of the foot suggested the formation of a line of demarcation in the neighbourhood of the ankle-joint. Gradually, however, circulation in the skin capillaries became brisker, the oedematous swelling diminished, and, after two months, walking became possible, though attended for some time by pain, due possibly to relative ischaemia in the muscle of the calf on the affected side. This condition of claudication gradually disappeared entirely, but for about four and a half months from the initial attack some pain persisted in the region of the instep on walking. A small "blood blister" appeared at the site of the ingrowing toenail. It, however, sloughed off, leaving healthy skin behind.

The patient has a high degree of natural immunity to ordinary sepsis, and this no doubt contributed to some extent to the favourable result. At the end of five months the foot was perfectly normal again, the last portion to lose its oedema and resume its normal appearance being the outer half of the dorsum of the foot.

Five and a half months after the onset of the first attack a similar sudden and intense pain was felt in the calf of the other (left) leg. The same sequence of events followed, differing only in degree, the second attack being in every way less severe and no superficial slough appearing, although an ingrowing toenail on this foot also was similarly dealt with.

At the moment of writing (four and a half months later) this foot also is practically normal in appearance. No pain is now felt in either limb when at rest or when walking short distances up to 200 or 300 yards. When this distance is exceeded a condition of claudication supervenes, affecting the left leg only and necessitating rest for a few moments. With judicious resting (by means of a camp stool) daily walks of a mile or more can be enjoyed without fatigue.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

CUTANEOUS GONOCOCCAL INFECTION.

A MEDICAL man consulted me recently on account of a curious dermatitis of the elbow. A slight abrasion of the skin over the olecranon was caused by a fall while playing football, and a week later the lesion became acutely inflamed and very painful. On examination the abrasion was found to have become a shallow ulcer, $2\frac{1}{2}$ cm. in length by about 1 cm. in width. Its base was formed by a lemon-coloured slough, and the edge was surrounded by a hyperaemic band of skin some 2 mm. in width. Encircling the ulcer, at a distance of about 3 cm., were a number of bullae; the smallest was 1 cm. in diameter and the largest $2\frac{1}{2}$ cm. long by 1 cm. broad. The axillary glands were enlarged and tender. Serous fluid was obtained by the aspiration of one of the bullae, and films stained by Gram's method showed a few pus cells with intracellular Gram-negative diplococci morphologically resembling gonococci. A few Gram-positive cocci were also present. From cultures on blood agar *Staphylococcus aureus* and a Gram-negative diplococcus were obtained. Colonies of the latter on serum agar developed the scalloped edge characteristic of gonococcal colonies after four days' incubation. There was no history of gonorrhoea, so that a metastatic explanation of the infection was untenable, but, in view of the rarity of a primary gonococcal cutaneous infection, fermentation tests were undertaken to establish the identity of the organism. Glucose was fermented, but maltose and saccharose were not. No growth was obtained on broth

agar, and from these criteria it was concluded that the organism was in fact the gonococcus.

Inquiries as to the probable source of infection elicited the fact that, three days before the elbow became painful, the patient had operated on a female for elephantiasis. At the time of operation there was a vaginal discharge, but subsequent examination failed to detect any gonococci.

The course of the cutaneous lesion was uneventful. Hot fomentations were employed for twenty-four hours and then protargol was applied. Three weeks later healing had occurred.

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CASE OF PROTEIN ANAPHYLAXIS.

My son, aged 8 years, had occasion to take delivery of a hare (dead) at the railway station distant about five minutes from my house. He wrapped the hare round his neck, and in this manner carried it home. A few minutes after his arrival he was seized with intense itching in his eyes, which at once became deeply congested. This was followed by a copious watery secretion from the nares. A few minutes afterwards a livid erythematous rash appeared on the neck; it spread rapidly on to the face, and was followed by marked oedema of the eyelids. At night a persistent hacking cough developed, which continued during the night. At 2 a.m. on the two following nights he was seized with a typical attack of asthma, which compelled him to sit up in bed. The oedema of the eyelids lasted for about three days. Bronchial râles were heard over both lungs.

I ordered the nares and pharynx to be sprayed with an alkaline douche, and for some days small groups of hairs appeared in the return water. Sensitization tests were applied a week afterwards, the result being marked positive reaction to the epidermal groups (Nos. 25 and 26).

The following points are interesting: (1) The facility in detecting the protein causing the symptoms; (2) the rapidity of onset and the course of the symptoms; (3) the marked reaction to the tests applied.

I may add that the boy on many occasions had been in contact with dogs, cats, and horses without any ill effects.

Ayr.

FERGUS MCKENNA, M.B., C.M.

RECURRENT CHICKEN-POX.

WHILE it is clear from the experience of many practitioners that one attack of chicken-pox does not necessarily confer immunity to the disease, and while, according to Osler and McCrae,¹ there are instances on record of three attacks in one person, the following particulars of a family under my care, the members of which appear to be unusually susceptible to the disease, seem of sufficient interest to report.

Of the three children in the family Mary was born in 1916, John in 1919, and Lucy in 1921. Their first attack occurred during a holiday in Cornwall in September, 1921. The eldest child was slightly affected, and the boy rather badly. The third child, then a baby of 7 months, had one or two "spots" (a doubtful case). There was a small outbreak of varicella at the time in the neighbourhood, and Dr. F. C. Matthew of St. Ives, under whose care the children were, has written to say he remembers the circumstances quite well, and had no doubt as to the diagnosis. The remains of the eruption were visible on the patients on their return to Oxford. In July, 1922, Mary had what I regarded as a mild attack of chicken-pox, for which she was isolated. In October, 1924, following the occurrence of a case at her school, she had a rather severe attack. Thirteen days later John fell ill, and Lucy two days after him. All three were typical cases in respect of the onset, character, distribution, and duration of the eruption.

In this family, therefore, two of the children have each had two definite attacks, the eldest almost certainly a third, while the youngest member has had one clear attack and one doubtful. The subsequent history of these children will be noted with interest.

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¹ *The Principles and Practice of Medicine*, ninth edition, p. 337.