seemingly dying from shock. A further hypodermic injection was given of strychnine ($\frac{1}{8}$ gr.) and digitalin ($\frac{1}{8}$ gr.), and the child placed in a tub of hot water and vigorously rubbed. The improvement, if any, was very slight.

At this stage I thought of trying the effect of a warm saline solution per rectum, having no apparatus at hand for employing the intravenous method. Most of the injection (about 1 pint) was retained, and I had the satisfaction of seeing my patient slowly rally from his collapse, so that about half an hour later he was able to take some hot beef-tea by the mouth. From this stage his recovery was rapid, and next day he was playing about as usual.

Since alcohol, owing to its high diffusive power, is so readily absorbed into the blood vessels, it would seem reasonable to try and dilute the poison in those channels, in addition to helping the kidneys to eliminate the toxic products. It has been stated that saline solutions given per rectum are useless if the patient is much collapsed, as the fluid is not absorbed; but practical experience would point to the contrary, and I would strongly urge the beneficial effects of the rectal administrations of saline solutions, as witnessed in cases of shock following prolonged labour, operations attended with considerable haemorrhage, and after severe injuries. I do not attribute the happy result in this case entirely to the saline injection, since other remedial measures were adopted, but I am convinced of its great efficacy.

In summing up, the interesting features of the case are: (1) The amount of concentrated alcohol ($\frac{3}{4}$ j of strong neat whisky) in proportion to the age of the child; Luff states that a child died after taking $\frac{3}{4}$ j of gin. (2) The rapidity of the onset of insensibility, no doubt due to the stomach being previously empty. (3) The beneficial result consequent on the saline injection.

CASES OF ANGIOMA OF SYNOVIAL MEMBRANES AND OF MUSCLE.

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THE following cases of angioma or naevus affecting the synovial membrane of some of the larger joints and, in some instances, the adjacent muscles may be of interest both from a diagnostic point of view as well as from the fact that they have hitherto attracted, little attention.

CASE I.—Florence S., aged 15, was sent up to me in June, 1892, by Dr. Fraser, of Romford.

History.—Three or four years previously she noticed a swelling, a little bigger than a pea, just above and to the outer side of her knee. The swelling gradually increased and at first was only occasionally painful, but had been much more so during the last month. In addition to the gradual increase occasional variations in size were noted.

Present Condition.—There was a swelling about the size of a hen's egg on the outer side of the thigh just above the knee. The skin over it was natural and it was evidently deeply placed, apparently involving the upper and outer part of the *cul de sac* of the synovial membrane. Its outline was indistinct and consistence elastic. It was noted that on passing the hand down the thigh towards the swelling the latter seemed to become harder and to increase in size.

Operation.—I first punctured the swelling with a trocar, and blood only came away. An exploratory incision was then made and the tissue opened up contained a large number of dilated vessels. On still further enlarging the incision the tumour was found to be an angioma involving the upper part of the synovial membrane and the vastus externus and crureus. It extended upwards $\frac{1}{2}$ in. above the knee joint and across the anterior surface of the femur to the inner side. It was removed with some difficulty owing to haemorrhage, the knee-joint being freely opened and the affected portion of the synovial membrane excised. Bleeding was arrested by ligatures, capillary oozing by the actual cautery, and the wound was plugged with iodoform gauze. Next day the plug was removed, the wound closed with sutures, a drain being left in the upper part. There was some suppuration at the upper part of the wound, but the knee joint was unaffected, and the patient left the hospital with the wound soundly healed and a freely movable knee.

Microscopical Examination.—Sections of the affected muscle showed bands of connective tissue and fat lying between and around the muscle bundles. Within these were very large and some smaller irregular cavernous spaces. The walls of the larger spaces were, as a rule, very thin, but in places a thin band of unstriped muscle could be traced. The walls of the smaller spaces were thicker. There were also blood vessels, showing irregular dilatations of their lumina, whose walls possessed a distinct layer of unstriped muscle.

I have since met with a precisely similar case, also in a young woman, in whom an angioma involved the upper part of the synovial membrane of the knee-joint and the adjacent

muscles. In this case the diagnosis was made owing to the resemblance to the case first related. I am unable to give details owing to the notes having been mislaid.

Fig. 1.—From Case I; section of muscle with large vascular channels.

CASE II.—I saw Master D., aged 10, with Dr. J. Burton, in March, 1898. The left knee had been painful, without evident cause, for four or five years. The pain was increasing, and he had begun to experience difficulty in moving the joint. Latterly a swelling had appeared on the inner side. He stated that the knee started in his sleep. A maternal uncle and one of his cousins had died of consumption.

Present Condition.—On the inner side of the left ligamentum patellae was a prominent swelling which was elastic over the inner two-thirds and fairly well defined over the outer third. The swelling, after use of the limb, became hot, tender, and red. The skin over it was normal. Measurements showed a diminution of circumference of the left thigh of 1 in. and of the left calf $\frac{1}{2}$ in. The circumference of the knee-joint over the patella was unaltered, but above it the left thigh was diminished owing to the wasting of muscle. It was thought to be a case of localized tuberculosis of the synovial membrane such as I have occasionally met with; and as the function of the joint was becoming impaired I advised operation.

Operation.—A transverse incision was made, extending from the inner side of the ligamentum patellae, over the inner aspect of the joint and following the line of the articulation. The capsule was opened and a roundish swelling of a yellow colour exposed, presenting at first sight the appearance of caseous tubercle; it was, however, spongy in consistence. Its real nature was recognized by an incision, and it was completely removed. The capsule of the joint was united with silk and the skin sutured. Primary union took place, and movement of the joint was completely restored.

Fig. 2.—From Case II; large cavernous angioma of synovial membrane of knee.

Microscopic Examination.—The sections presented the typical appearance of a cavernous naevus. The blood spaces were very large, freely communicating, and with very thin walls. In parts of the section there was a good deal of dense, fibrous tissue.

In the two following cases a small circumscribed angioma was situated near the elbow joint.

CASE III.—Mary B., aged 23, was admitted to the London Hospital in October, 1898.

History.—Twelve months previously her elbow became stiff and painful, the pain being worse at night, and there was often starting of the limb at night. She could not use the arm on account of pain. Her left knee was swollen three years ago, and was treated by strapping for three months.

Present Condition.—There was a swelling on the inner side of the elbow between the olecranon and the internal condyle, which also extended somewhat to the front; it was elastic, and the synovial membrane near it felt thickened. Flexion of the joint was limited, the muscles of the arm flabby, and the tumour acutely tender.

Operation.—An incision about 2½ in. long was made between the olecranon process and the internal condyle. The ulnar nerve was drawn aside and the capsule opened, when a mass of thickened synovial membrane was exposed. An incision into the affected membrane revealed a few soft yellowish bodies, which proved to be phleboliths. Primary union, with restoration of movement, took place.

Fig. 3.—Angioma of synovial membrane of elbow showing part of a very large vascular channel, from Case III.

Microscopic Examination.—In this case the angioma was entirely confined to the synovial membrane. The cavernous spaces were very large with thin walls, and were widely separated by connective tissue. Many of them were filled with organizing fibrin, and a section thus appeared to the naked eye to be studded with caseous patches.

CASE IV.—Alfred A., aged 24, was admitted to the London Hospital about the same time.

History.—He complained of a lump on the outer side of the right elbow which had existed for three months. It was slowly increasing, but caused neither pain nor limitation of movement.

Present Condition.—On the outer side of the right elbow, between the olecranon and external condyle, was an oval elastic swelling the size of a pigeon's egg. It was smooth, well-defined, movable laterally, and not tender.

Operation.—An incision was made over the swelling in the axis of the limb, and a fatty-looking growth which bled rather freely was removed from the substance of the triceps and anconeus, and the adjoining portion of the synovial membrane. Primary union.

Microscopical Examination.—The chief part of the mass was composed of fat, but there were also bands of connective tissue containing numerous small and some larger venous channels; in other parts were much larger vascular channels with ill-developed walls. At one point there were bundles of degenerate muscle fibre separated by bands of connective tissue containing numerous capillary blood vessels.

REMARKS.

The feature of chief interest arising in connexion with these cases is the question of diagnosis. All occurred between the ages of 10 and 25 when tuberculosis of the joints is common; some of the patients complained of symptoms highly suggestive of tuberculosis, such as pain increased by movement, and two complained of starting of the limb at night. Tenderness and limitation of movement were marked in three cases, and in two wasting of muscle was noticed. In some instances the swelling was described as being soft and elastic. It is not surprising therefore that in some instances a diagnosis of localized tuberculosis of the synovial membrane was made; while in the last case lipoma was suggested, and, in fact, the tumour consisted chiefly of fat.

Pulsation was not observed, but in the first case it was noted that the swelling increased when pressure was made above it. Pressure upon the venous trunks above the tumour might perhaps have proved a diagnostic sign in some of the other cases had it been tried. Emptying of the tumour by

pressure was not apparent. Possibly in Case III the symptoms were exaggerated by a neurotic tendency just as they may be in fibro-adenomata of the breast in young women.

The histories pointed to a somewhat rapid increase of the tumour in Cases I and II; and in the former the microscopic appearances suggested a progressive infiltration of muscle by fibro-vascular tissue.

I mentioned Case I in a discussion on a case of naevus of the peritoneum recorded by Mr. Arbuthnot Lane.¹

In Cases II and III the tumour was entirely intra-articular and solely connected with the synovial membrane. A careful search through literature has failed to find any additional cases of angioma of the synovial membrane of joints. They cannot be very rare as I have met with the four cases recorded and seen two others. Probably they would have remained unrecognized but for the advances in surgery which have enabled us to open joints with impunity.

In an admirable monograph entitled *Remarks on Some Cases of Vascular Tumour Seated in the Muscle*,² Mr. Campbell de Morgan describes two cases of vascular tumour, definitely circumscribed and encapsuled, situated respectively in the gastrocnemius below the popliteal space, and on the front of the thigh, about the middle, and within the substance of the rectus. He gives a complete collection of similar cases published up to date, quoting examples of vascular tumour involving respectively the posterior muscles of the neck, supinator longus, deltoid, rectus femoris, inferior and external part of the thigh, and also one on the side of the chest, which involved the latissimus dorsi, serratus magnus, and intercostal muscles. But in none of these cases was any relation with a joint or synovial membrane noticed. Some of them were well-defined and encapsuled, others diffuse. In one case recorded by Liston there was distinct pulsation, in some the blood could be expressed from the tumour, while others were mistaken for lipomata until they were incised.

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- ¹ *Clin. Soc. Trans.*, vol. XXV, p. 5, 1893. ² *British and Foreign Medical-Chirurgical Review*, vol. XXXIII, 1864, p. 187.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

LOCAL TREATMENT OF SNAKE-BITE.

A FEW weeks ago one of my coolies when walking along the high road about dusk was bitten by an *Echis carinata* on the top of the middle toe of the right foot. He reached me in about ten minutes. I put a ligature of a piece of string, which was in my pocket, around the base of the toe and a tourniquet, made with a duster and a walking-stick, just above the knee.

The ligature round the toe gave him no pain and there was some swelling of the affected toe, which had the marks of the bite clearly visible on it, but otherwise, at this time there was no change in the part.

By the time he got to hospital, in a carriage, within thirty minutes of the bite, the top of the foot was swollen and the skin was insensitive up to the ankle. About six incisions were made through the skin and connective tissue on the top of the foot. He was unable to feel these incisions and no blood oozed from them.

An elastic bandage was then put on, as in the bloodless method of operating, beginning at the knee and extending down to the ankle. The blood in the foot was then emptied out as far as possible by vigorous kneading. It was black, thickened, and ran with difficulty—being quite different in appearance to the venous blood which normally exudes from a part below a tourniquet. The elastic bandage was then removed and the upper tourniquet slightly loosened to allow the leg to fill up. The elastic bandage was then again applied and more blood got out from the foot.

This was repeated and on kneading the foot this time the blood ran naturally and the patient sat up saying he was all right, as the wounds had begun to smart. All bandages were then removed, but two assistants kept vigorously massaging the leg from the knee downwards for fifteen minutes. The wounds were cleansed with perchloride solution and dressed antiseptically—they healed without suppuration or slough, but very slowly—a fact I noted in a case somewhat similar to this about three years ago. There were no constitutional symptoms. The case is of interest as it shows that amputation