and generally this is easily accomplished, as the ureter is dilated above the point of impaction of the stone, but if it is firmly fixed an incision should be made through the wall of the ureter, and after the calculus has been extracted the incision may be closed by sutures.

REFERENCES.

- ¹ Hunterian Lectures, 1898, p. 93. ² Loc. cit., p. 106. ³ Loc. cit., p. 109. ⁴ Cases II, III, and IV were brought before the Glasgow Pathological and Clinical Society meeting, December 11th, 1899. ⁵ Newman, *Lectures on Surgical Diseases of the Kidney*, 1888, p. 114.

LARGE SARCOMATOUS NEUROMA OF THE INTERNAL POPLITEAL NERVE.

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[With a Pathological Report by Dr. MUIR, Professor of Pathology.]

A LARGE sarcomatous tumour of the trunk of a main nerve is a very uncommon occurrence. The following is a short clinical account of the case:

R. G., aged 20, had received about nine months earlier a blow from a piece of wood on the front of the thigh just above the knee. It gave him no trouble and he forgot all about it. Three months after he discovered a little lump the size of a filbert in his popliteal space. There was no pain or annoyance, but it gradually increased in size. For the last six weeks it has been enlarging more rapidly till it attained its present size.

Condition on Admission to Professor G. Buchanan's Ward in Western Infirmary, November 14th, 1899. The popliteal space is completely filled up by an ovoid tumour, resistant and elastic, and quite movable from side to side. The opinion was that it was an adenoma or a sarcoma, probably of a lymphatic gland. The patient can walk quite well, while motion and sensation were perfect down to the toes, except some anaesthesia of the sole of the foot; so there was no indication that the popliteal nerve was unduly pressed upon. There was no oedema below the knee, so the probability seemed to be that the tumour could be removed without any injury to the nerve or vessels of the popliteal space. Accordingly, on November 21st, an incision 6 inches in length was made over the tumour, and the capsule was exposed. The soft parts were easily stripped from the capsule over the front and sides, but on the back it was firmly adhering to the popliteal nerve. It was now found that the capsule was simply the nerve sheath expanding into and forming the capsule, and that the nerve itself was lost in the tumour, either by the nerve strands separating and enveloping the capsule, or passing through the tumour. In these circumstances the only course was to amputate the thigh, but as that had not been contemplated the patient and his parents had not been asked for permission if the tumour proved to be malignant. Therefore a small slice of the tumour was excised for examination, the edges of the cut capsule brought together, and the wound united by continuous suture. The piece was subsequently examined by Professor Muir, who pronounced it a round-cell sarcoma. Next day the father arrived from the country, but refused to allow amputation. However, when the nature of the growth was explained to him, he went home and consulted his wife, and returned with full permission, which the patient himself quite frankly consented to. On November 28th amputation was performed and the patient has progressed well. Immediately after amputation the tumour was exposed by a longitudinal section extending from the trunk of the nerve above to that below. It presented a greyish appearance, in consistence of a soft and pulpy nature, in the superficial half, but in the deep half more tough and fibrous, where it seemed to be continuous with nerve strands attached to the capsule. But it was impossible by the naked eye to discover in what way the nerve above communicated with the nerve below, so the limb was sent to the pathologist, who will give the pathological report. The length of nerve involved in the tumour is about 5 inches.

PATHOLOGICAL REPORT BY DR. MUIR.

A large somewhat fusiform tumour occupied the popliteal space; its extreme length was nearly 5 inches, its greatest width being 2 inches, and it tapered off above and below. It was somewhat adherent to the vessels beneath it, but these were not incorporated with it. The upper limit of the growth was just below the division of the great sciatic into internal and external popliteal nerves. (The division of the main trunk appeared to be a little lower than usual.) The tumour is apparently in the interior of the internal popliteal nerve, the sheath of the nerve being stretched over it and forming its capsule. On section, strands of nerve fibres can be seen passing through the tumour growth, a considerable disassociation of fibres having taken place.

The tumour was composed of soft cellular tissue of a greyish colour, in parts however very vascular and showing hæmorrhages. There are also yellowish areas, apparently the result of degenerative changes. One of these was of the size of a small plum and situated in the part of the growth nearest the large vessels. The external popliteal nerve coursed over the surface of the tumour and was somewhat flattened, but was apparently free from infiltration.

Fresh sections microscopically examined showed the growth to be sarcomatous, most of the cells presenting a rounded form. In sections prepared after fixing the tissue in corrosive sublimate the cells have either an oval or pyramidal form with very little protoplasm. There is very little intracellular stroma. There are numerous hæmorrhages and necrosed patches. Strands of fibrous tissue with nerve fibres running through the growth at intervals are noted. The tumour tissue is nowhere observed to penetrate the fibrous tissue sheath externally.

A portion of the internal popliteal nerve was removed below the growth, and treated by Marchi's method. It showed marked degenera-

tion in one or two small fasciculi, and a few degenerated fibres scattered here and there in the larger bundles. The great majority of the fibres, however, showed no degenerative change.

The condition is interesting as illustrating the fact that nerves may be extensively infiltrated and disassociated with comparatively little degeneration resulting, both the clinical facts and the microscopic examination in this case showing that only a small proportion of the fibres had suffered.

A CASE OF ENTERECTOMY BY END-TO-END SUTURE IN A BOY AGED 7.

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THE case described below may be taken as a type of the condition which always occurs when the small intestine has to be opened and a fecal fistula formed. The fluid contents of the intestine are constantly oozing from the opening, and therefore the skin is constantly in contact with this fluid, which, having powerful digestive properties, promptly begins to digest the skin. The epidermis soon disappears, and around the opening is an area of raw papillæ, which bleed readily, and, as may be imagined, are most painful when touched. Such being the fact, any attempt to clean the surface or wash the part is immediately followed by strong contraction of the abdominal muscles; this contraction forces out the contents of the intestine, and so it goes on. The higher up the intestine the opening has been made the stronger will be the effect of the secretion on the skin, and (which may be much more serious) the length of intestine left for digestive purposes may be so curtailed as to make the question of nutrition of the patient a matter of anxiety.

In this case it was obvious that the intestine had been opened high up, both from the condition of the skin, and also from the fact that food appeared at the opening 2½ hours after it had been swallowed. The boy was quite thin, but otherwise healthy. Since the operation (December 1st) he has increased half a stone in weight. This in itself is a matter of interest, because for over ten months the greater part of his intestine was "out of action," and a certain amount of general atrophy had taken place. I should judge that the functions of the intestine below the join were in good working order after the ninth day, as after that time the motions became formed and normal, and before that, that is between the third and the ninth day, they were loose and offensive. Custard was given on the eleventh day, fish on the thirteenth, and meat on the fourteenth day. I mention this to strengthen my statement as to the probable time at which the intestine resumed its functions. As soon as the motions were of a normal character I felt I could with impunity increase his diet and put him on solid food, and his rapid increase in weight shows how he responded to it.

G. H., aged 7, was admitted to St. Monica's Home, Kilburn, on August 5th, 1899, with a fecal fistula, a marked prolapse of the bowel through the opening, and with the skin acutely tender and inflamed for an area of about 1½ inch round the wound, this last condition being due to partial digestion of skin by the fecal discharge.

History.—The previous history of the boy was that in 1895 he had tuberculous peritonitis, for which he was admitted to St. Bartholomew's Hospital, where he remained thirteen weeks. After this he kept well for three years, but on January 20th, 1899, he developed acute intestinal obstruction, for which he was readmitted to St. Bartholomew's, and an operation for its relief was performed on that night, an incision being made in the mid-line below the umbilicus, and a coil of small intestine above the obstruction was opened and stitched to the skin. Some time before his discharge from the hospital (August 3rd, 1899) an unsuccessful attempt was made to close the fecal fistula. When admitted on August 5th his condition was as described above, and was a most pitiable one. Attempts were made to get the skin into a less septic condition and to endeavour to lessen the prolapse. At the same time, as it was doubtful what part of the small intestine had been opened, various foods were given by the mouth such as cooked and uncooked rice, and it was noticed how soon afterwards any appeared at the opening. Boiled rice appeared in three hours forty minutes; raw rice showed itself two and a-half hours after it had been swallowed. The boy's weight was 2 stone 8 lbs. On November 2nd, acting on a suggestion of the nurse in charge of the boy, the patient was turned on his face, a firm band was placed over the lower part of the wound, leaving the bowel free, and the discharge was received into a bedpan covered with a round air cushion. This was continued for a week with such a satisfactory result as far as the skin was concerned that I decided to operate on December 1st.

Operation.—When the boy was anaesthetised, the skin was washed with soap and water, then ether, and finally with 1 in 500 perchloride solution. An incision was made through the skin about half an inch away from the opening of the bowel, and continued above and below so as to form an ellipse. All the tissues were cut through until the peritoneum was reached. Before this was opened the sides of the fecal fistula (into the opening of which a small sponge had been inserted) were closed by one or