A CASE
OF
MULTIPLE NEUROMATA
AFFECTING THE NERVES BOTH WITHIN AND EXTERNAL
TO THE SPINAL CANAL,
SOME OF THE TUMOURS BEING OF A CYSTIC NATURE.

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THE following case is submitted to the Society as being a remarkable example of the cystic form of nerve tumour. It is also an illustration of the extraordinary multiplicity which is sometimes observed in this form of disease. In most examples of the non-cancerous form of neuroma the tumour is composed of a solid fibro-cellular structure situated within the sheath of the nerve and more or less involving either a portion or the whole of the nerve-fibres. In a few instances cysts have been observed, but this is of rare occurrence. Among ten cases of neuroma recorded in the 'Trans. Path. Society' a cyst was observed in one only, and in this example the cyst was single and was partly filled with blood-clot.

James M—, æt. 45, a coach painter, was admitted into the Middlesex Hospital on April 9th, 1861, under the care of Mr. Henry. The patient was a man of slight make and fair complexion, and he stated that he had enjoyed good health till about seven years ago. At this period he became less strong, but had no definite symptoms to complain of till four years ago, when the use of his lower extremities became impaired, and by degrees he lost all power of movement. In the previous October a sore had formed on the back, which, after a short time, healed up, but others appeared in the same situation. When admitted into the hospital he had no power over the movements of the voluntary muscles in the lower half of the body. The legs were drawn up and firmly contracted on the abdomen. The position, however, of the lower limbs might be changed, and the legs would remain for a time if drawn down. His upper extremities were also bent, but he retained some power of motion, being at this time able to feed himself, his food, however, being first cut up. He was not able to hold a cup. Cutaneous sensibility was completely absent in the lower extremities, but the hands preserved an impaired and feeble sensibility. He had no power of retaining either urine or fæces. A large tumour was observed below the elbow, and another immediately below Poupart's ligament, on the left side. On the left buttock there was a deep sore the size of the palm of the hand, and there was a somewhat smaller one on the right buttock. Both these sores were sloughing.

After his admission into the hospital some improvement took place in his general condition ; his appetite was good, and he was able to take food freely, although with some difficulty. For a time there was an improvement in the state of the places on the buttock, but subsequently the sloughing extended, and he died somewhat suddenly on May 11th, 1861.

The body was examined forty-nine hours after death, the weather being cold. The body was well nourished, there being more than half an inch of fat on the front of the

abdomen. In the left groin there was a firm tumour, the size of a large orange, closely connected with the anterior crural nerve, most of the fibres of this nerve being expanded over the surface of the tumour. On tracing up the nerve a second tumour, the size of a pigeon's egg, was found, attached to one of the branches of the lumbar plexus, close to the spine. This tumour contained a cyst. On the same nerve, within the spinal canal, was another tumour, the size of a hazel-nut, pressing upon the cord.

On the right arm, below the bend of the elbow, was a firm lobulated tumour, the size of an orange. The section of the tumour was translucent. No nerve was traced connected with it.

No disease was discovered in the internal organs. The liver, spleen, and kidneys were somewhat flabby and soft.

The membranes of the brain were extremely congested, but the brain-substance and also the cerebral nerves were healthy.

On laying open the membranes of the cord a vast number of nerve tumours of various sizes were exposed. These were chiefly seen in the upper cervical and in the lumbar regions. In the cervical region several neuromata were observed, and the principal of these was a tumour the size of a large nut, situated opposite the second or third vertebræ. This tumour was placed within the membranes of the cord; it was of a rounded form. From the position of the tumour it had pressed upon the spinal cord, which was found much constricted and softened opposite the tumour, but the cord above and below the tumour presented its ordinary appearance. This tumour was of a cystic nature.

In the lumbar region the number of neuromata was very great, they were chiefly situated within the membranes of the cord. The tumours were very various in size, and in several instances arranged on the nerves in such a manner as to give the appearance of a number of beads strung on a string. Most of these small tumours were either globular

or ovoid, but in some instances the surface was nodulated like that of a mulberry.

The large tumour on the crural nerve was examined more minutely. It was found to be enclosed in a dense fibrous capsule, which could be with very little difficulty removed from the surface of the tumour. The capsule was continuous with the sheath of the nerve. A section being made the tumour presented the appearance of a fibro-cellular tumour interspersed with cysts, the fibrous portion being chiefly collected in one part and the cystic portion in another. The fibrous portion exhibited the appearance, usually observed in neuromata, of fibrous bands arranged parallelly to the surface of the tumour. The cysts were very various in size, some being very minute and almost microscopical, and others considerably larger, one being as large as a hen's egg. All the smaller cysts were filled with clear serous fluid, the cysts being formed by a thin smooth fibrous wall. The tissue between the cyst-walls was fibrous. The largest cyst was nearly filled with partly organised blood-clot. The coagulum, still retaining the colour of blood, was in most places adherent to the wall of the cyst. Portions of this blood-clot were much paler than the rest of the coagulum. A second cyst, the size of a walnut, was filled with yellowish gelatinous or colloid substance. This material was slightly adherent to the wall of the cyst, but did not present any appearance of blood-clot to the naked eye.

On microscopical examination the solid portions of the tumour were found to be made up of the ordinary wavy fibre-tissue with a certain proportion of cell-nuclei and of fibre-cells. The blood-clot exhibited the characters of coagulum in various stages of organisation. Portions were composed almost entirely of an agglomeration of blood-corpuscles and of granular material. In other portions, the same appearances were found mingled with straight fibrils passing in various directions. In other parts again, the fibre-structure predominated, the tissue being composed of straight fibres arranged more or less in the manner of

stellate tissue, the spaces between the fibrils being filled with granular matter and a few blood-corpuscles. A microscopical examination of the colloid substance contained in the smaller cyst proved that it was of a like nature to the last described. It was composed of the fibrils arranged as stellate tissue, supported apparently in a transparent fluid or semi-fluid, which contained a few blood-corpuscles or nuclei scattered through it.

Colloid substance from the interior of the cyst.

I have to thank Mr. Henry for the opportunity of studying this case, and of bringing it before the Society.

DESCRIPTION OF PLATE I.

The drawing exhibits a general view of the spinal cord, with the principal nerve, as it appeared when removed from the body.

The lower portion has been turned round so as to enable it to be shown on the same plate.

The component parts of the large tumour are :

- a.* The cystic portion.
- b.* A cyst filled with blood-clot.
- c.* The fibro-cellular structure forming the solid part of the tumour.
- d.* The cyst filled with jelly-like substance.

Linear dimensions about $\frac{2}{3}$ of natural size.