ON
CONGENITAL SACRAL TUMOUR;
ESPECIALLY WITH REFERENCE TO ITS
OPERATIVE TREATMENT.

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AMONGST the rare forms of disease, with which those who occupy themselves especially with children's affections are sometimes called upon to deal, few are more interesting, and at the same time more embarrassing, than the congenital tumours which are occasionally found growing in the neighbourhood of, or from, the coccyx and sacrum.* Such tumours sometimes assume the form of supernumerary limbs, and still more often they bear unmistakable evidence of being the result of double foetation, in the shape of portions of a hand, or foot, projecting from their extremity. But there are sacral tumours, on the other hand, found in childhood, in which no evidence of congenital duration is to be obtained, and in which none but the ordinary constituents of fibrofatty growths (lipomata) are to be discovered on anatomical investigation.

Occupying, as it were, a middle-space between these extreme forms of sacral tumours, there are others which do not present any very obvious proofs of foetal origin, but which are congenital, and which communicate with the interior of the pelvis. In these, as in the tumours which are obviously foetal, it must always remain very doubtful whether they are within reach of operative interference, until the attempt has been actually made.

I shall relate in this paper the history of an operation successfully performed on one of the last mentioned species of congenital sacral tumour; and shall also endeavour to include an abstract of the present condition of our knowledge of the subject in general.

I will, in the first place, describe typical examples of each of the three classes into which I have roughly divided these sacral tumours.

First, of those which are not congenital, and which have no formidable characters, the following is a well marked specimen.

Catherine W., aged 6, was admitted under my care into the Hospital for Sick Children, on account of a tumour of the size of a small orange, situated a little to the left side of the median line, in the cleft of the buttock, and running down to the coccyx, to which it appeared to be attached. It could be felt with the finger in the rectum to be in contact with the wall of the gut for some distance. It appeared to be solid. The mother was quite certain that it was not congenital; she had noticed it about two years. Under these circumstances, I felt no hesitation in removing it; which was effected with no difficulty, though the tumour was so blended with the rectum that some care was necessary. The tumour was closely attached to the external periosteum of the coccyx. It consisted of ordinary fibrous tissue, but contained one small cyst. The child recovered without any symptoms.

As a contrast to the perfectly easy treatment of this case, in which the tumour was entirely external to the pelvis, and as an instance of a tumour clearly the product of double foetation, I will quote the following, related by Dr. Senfleben in the *Deutsche Klinik*, 1865, p. 174. The patient was a male infant, twelve days old, who presented a congenital tumour of about the size of an apple, between the anus and coccyx, which had, growing from its extremity, a hand of about half the natural size. From the rectum, a stalk could be felt running towards the sacrum. The tumour was surrounded by a circular incision, and the stalk was dissected down to its attachment on the front of the sacrum. In doing this, the peritoneal cavity was opened, and a portion of small intestine projected. This being returned, the stalk was tied with a double ligature and cut off. All went well, and the child was seen in excellent health at the age of nine months. On section, the tumour was found to be composed of fat, with portions of cartilage. The skeleton of the hand was cartilaginous.

As an example of the third, or intermediate variety, in which the tumour is congenital, and perhaps the result of intrafoetation, but where this is not absolutely proved, we may take a case which has furnished a preparation for St. George's Hospital Museum. (Series xvii, No. 43.) (See also the *Path. Soc. Trans.*, vol. iii, p. 445.) The patient, who had arrived at the age of 41, had consulted Sir A. Cooper, Sir B. Brodie, Sir W. Fergusson, together with other eminent surgeons, about the possibility of being freed from his tumour; but they decided against the operation. He died from some other cause.* It was found, on post mortem examination, that the tumour contained a large number of separate portions of bone, some of which were imagined to bear a resemblance to the bones of a fetus. This resemblance, however, was very obscure; and it still remains doubtful whether the disease was really in any way connected with foetation. From the account of this tumour, which is given by Mr. Charles Hawkins on Sir B. Brodie's authority, it is difficult to resist the impression that it might have been operated on with fair prospects of success.

I will now relate the notes of a case which lately occurred in my practice at the Hospital for Sick Children, and which belonged to the last of the three classes above defined. The tumour was congenital, and it evidently passed into the pelvis, as these congenital tumours, I believe, always do; but, on the other hand, it displayed no trace of foetal structure.

CASE. Harriet F., aged 3, was admitted into the Hospital for Sick Children, on account of a congenital tumour situated in the left buttock. The tumour was of about the size of an orange at the time of the child's birth. It was tapped when she was two months old, and some fluid was withdrawn; but not enough, as it was said, to affect the size of the swelling to any great extent. It had increased steadily in size, and latterly more rapidly, so as to give the child very great inconvenience. The parents were urgent that something should be done for her; but the great size and formidable connexions of the tumour rendered it difficult to see what was the best course to pursue. It was nearly as large as the child's head—measuring fifteen inches and a half in circumference. There was no pedicle; but it seemed to pass through a broad opening (the expanded sacro-sciatic foramen) into the pelvis, and had a distinct

* I include all the growths connected with the false vertebrae, whether coccygeal or sacral, under the common term "sacral tumour"

* I have incorrectly stated in *A System of Surgery*, vol. iv, p. 806, that this patient died after the operation of removing the tumour. He seems to have died from the results of the irritation produced by making an incision into one of the cysts.

impulse, exactly like a common hernia. Figure 1 shows the appearance of the parts. There could be little doubt that it was—at least, in the main—composed of fluid, though its extreme state of tension prevented any fluctuation from being perceived. There was no transparency, and no lobulation. The anus

was pushed somewhat over to the right. The tumour could be traced down to the pelvic bones. The coccyx appeared to be superficial to it at its root. On placing the finger in the rectum, it was evident that the tumour was connected for some distance to the gut; but no great part of it could be felt in the in-

Fig. 1.—Drawing of the case of Harriet F. (congenital sacral tumour) before operation.

terior of the pelvis. The rectum and parts of generation were quite healthy. Nothing could be made out from the vagina. Soon after the child's admission, on July 4th, the tumour, which was now much larger than on her admission, was tapped with a common hydrocele trocar, and twenty ounces of very fetid fluid drawn off. The fluid much resembled cream in colour and consistence. On microscopic examination, it presented much molecular *débris* and a few prismatic crystals, but nothing like pus-cells or blood.

This did not empty the tumour; but left it quite flaccid and hardly projecting at all. In less than a week, it had filled to about half its previous size. It

was noticed that the distinctness of the impulse varied directly with the tension of the sac; and this rather disposed me to think that the impulse was derived from proximity to, and pressure on, the rectum, rather than from any more direct contact with the muscles of the abdomen. It was evident that the tumour passed into the pelvis, and it was impossible to judge how far it might extend, or whether it would be mechanically possible to remove it. The possible implication of the great sciatic nerve, or some of the other parts issuing from the sciatic foramen, from which the tumour protruded, would render the dissection at the best hazardous; and the possibility of some communication with the gut was not to be lost

sight of, though the character of the fluid did not seem to indicate any such communication. These were strong reasons against attempting what must at the best prove a very severe operation. But, on the other hand, the objections to any other course seemed still more grave. The injection of the sac, considering the nature of the fluid, could hardly be expected to succeed, and would be extremely hazardous; while the severer measures, which would excite suppuration in the whole of its interior (such as a seton, or incision and dressing in) must, I thought, prove inevitably fatal.*

Accordingly I proceeded to remove the tumour under chloroform on July 14th. The day was intensely hot. I made a large crucial incision over the whole tumour, and with some difficulty separated the skin and fat from its surface, taking care to keep as close to the cyst as I could do without wounding it. All vessels that were of any considerable size were tied as they were divided. No blood consequently was lost. The dissection was proceeding favourably, when the child suddenly lost all pulse and seemed to be dead. She was rallied, with considerable difficulty, by the judicious care of Dr. Gee, who was administering the chloroform.

I append, in a foot-note, Dr. Gee's account of the measures which he pursued in this instance, recommending them to the serious attention of surgeons who may find themselves in a similar embarrassment. I certainly never saw a patient recover from so desperate a state.†

When she was sufficiently recovered, I proceeded with the operation; the child all the time hovering between life and death. In clearing the inner side of the surface of the cyst, a tolerably large nerve which spread over the cyst and was lost on it was necessarily cut. This was thought to be the lesser sciatic. After the surface of the tumour had been carefully cleaned, its connexions to the edge of the large opening into the pelvis were severed. These were tolerably firm bands of fibrous tissue, blended with the periosteum, over the whole circumference of the opening. The finger was now introduced under the tumour, and it was torn away as much as possible from its deep connexions in the pelvis. This brought into view the lower part of the rectum, to which the cyst was so closely connected that it appeared at first sight to be blended with the wall of the gut.

* In Sir B. Brodie's case, above referred to, he says:—"Contrary to my advice, a surgeon made an incision into the tumour, which not only answered no useful purpose, but left him in a worse state than he was before. Different cysts suppurated, discharging pus and adhesive fluid; sometimes a collection of fluid and pus pressed on the rectum, occasioning a difficulty of expulsion of the feces, and then discharging its contents into the bowel; after this, he was always in a state of greater or less suffering; he lost flesh; had occasional attacks of fever; and at last he sank and died."—See *Path. Soc. Trans.*, iii, 445.

† "The operation was a long one. The child had a fictitious colour before the operation; but the chloroform soon disclosed (as it always does) the real paleness of the child. The operation was approaching the end; chloroform had not been given for several minutes; the child was still, however, quite unconscious; when Dr. Gee, who had kept his finger on the pulse throughout the operation, felt the pulse fail suddenly. It could not be felt at all. The artery of the other side gave the same result. The child's face had become deathly pale. The child had been uncovered a great deal during the operation, so that the surface was quite cold. Artificial respiration was kept up slowly and steadily. Hot brandy and water was put into her mouth, and swallowed. Ammonia was held under her nostrils. No respiratory movement was attempted by the child when artificial respiration was intermitted. Her surface was slapped briskly with towels dipped in cold water; scarcely any redness followed. There was a feeble return of pulse; the perfect unconsciousness and apparent inability to respire remained. This was her state for several minutes. It seemed absurd to attempt to stimulate any more by cold a skin already nearly as cold as it could be. So the child's head was held over a basin, and water at about 100° Fahr. was poured over the head copiously. Instantly, she began to cry, and to draw her breath naturally. There was no relapse of faintness; yet for many days (indeed, more or less throughout her stay in the hospital) she remained very weak."

By careful dissection, however, the cyst was separated from the rectum without opening either, and the gut was left exposed for about four inches; and now the tumour was entirely loose, except a small pedicle which ran into the interior of the pelvis and was lost on the front surface of the sacrum, about three-quarters of an inch from the margin of the opening. As some large vessels were visible in this pedicle, a ligature was tied tightly round it before dividing it. The child, at the end of the operation, had a weak, fluttering, and hardly perceptible pulse; but she slowly rallied under the restoratives employed. The flaps were put together lightly with silver sutures.

On cutting open the tumour (which is represented in fig. 2), it was found to consist almost entirely of a

Fig. 2.—Drawing of the congenital sacral tumour removed from Harriet F.

single thick cyst, filled with the creamy fluid which had been previously evacuated. At the lower part of the cyst-wall, however, near its pelvic attachment, was a large projection, bearing some resemblance in shape and size to the umbilical cord. This projection, when cut into, showed several small secondary cysts. In many parts of the wall, a tolerable quantity of adipose tissue was intermixed, and formed part of the tumour.

She had rallied considerably when seen at night. She had slept a good deal, and had taken food freely.

After the operation, the wound went on well; it soon suppurated freely. The amount of skin left was three or four times more than enough to cover the wound.

July 21st. About half of the superfluous skin was removed, and the cut edges brought together by sutures. An excess of skin still remained. When the wound was opened, the rectum could be seen for about two inches quite bare and full of feces. The general condition of the child throughout was rather low.

July 31st. She remained very much depressed, pale, and cool. Eight ounces of wine daily were ordered. The skin united, and the wound healed up from the bottom. There remained a great deal of superfluous skin thrown into deep folds, at the bottom of which were the cicatrices of the operation.

Sept. 8th. She was discharged, well.

She came to the hospital in the month of October, perfectly well in every respect. The annexed drawing (fig. 3) shows the state of the parts after cicatrization was complete.

It will be observed that, in this case, no tissues bearing any resemblance to those of a second foetus were discovered; nor before removal was there anything to lead us to suspect foetal inclusion. It is far

from impossible, however, that, if the tumour had been left to itself, and the child's life had been prolonged, detached portions of bone, as in Sir B. Brodie's case, might have been formed in the semi-solid portion containing small cysts, which projected

Fig. 3.—Drawing from Harriet F. a few weeks after recovery

into the cavity of the large cyst. I would also just notice that, in some of the best marked cases of included foetation, no foetal structure has been at first visible during life. Thus I would refer to the case of a girl who, at the age of 20, had a third leg amputated, which hung down as low as her knees, terminating in a double foot with ten toes. When she was a baby nothing was perceptible except a small tumour, which burst at the age of 3 years, giving exit to a watery fluid, and then the monstrous limb began to grow (Pitha's case, to be referred to hereafter).

[To be continued.]

INVERSION OF THE UTERUS AFTER LABOUR. A woman, aged 50, was admitted into the Frederick's Hospital, in July 1865. She had, with an interval of four years, borne two children, the last thirteen years before. Both labours were easy. About eight years ago she observed that the uterus prolapsed; menstruation, regular, but scanty, had ceased during the last six months. A month ago a profuse hæmorrhage took place, attended by sacral pains. The uterus was found between the thighs, of the size of two fists, completely inverted. In several spots lacerations were observed, extending into the muscular tissue. Some days later the uterus seemed diminished in size; irritative fever set in; gangrene showed itself in the left side of the uterus. The uterus contracted more and more. At last only the orifice remained, as a scar. The woman recovered. Dr. Clemensen attributes the origin of the inversion to the altered texture of the organ, resulting from fatty regression after labour.—*Hospital Tidende*, 1865; and *British and Foreign Med.-Chir. Review*, Jan. 1867.

OBSTRUCTION IN THE URETHRA:

A PIECE OF BONE IMPACTED, TEN YEARS AFTER INJURY OF THE PELVIS.

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A LABOURING man from a country village, 30 years of age, was admitted into the Radcliffe Infirmary, Oxford, on November 20th, 1850, complaining of constant pain in the urethra, hindering sleep at night, and attended with difficulty of micturition, which was caused, as he thought, by a piece of stone lodged in the passage.

Without any previous symptom to attract his attention, he perceived, on passing urine a few days before admission, that a small light-coloured substance, which he took for a stone, was ejected forcibly with the urine, the stream becoming almost immediately narrowed by another piece, which stuck fast in the passage, and which he was not able to remove with his fingers.

On the day after admission, the orifice of the urethra was observed to be slightly contracted; and there was a slight puriform discharge. The urine passed on the morning after admission was made turbid by mucus. A metallic sound, No. 8 in size, was passed into the bladder, without detecting a calculus; but great pain was caused by the instrument stretching or twisting the urethra, about three inches from the meatus, where a foreign body was felt to be impacted.

Several ineffectual attempts were made to extract the foreign body with forceps of different kinds. Though recognised easily as a solid rough substance, it could not be moved either forwards or backwards. Great pain was produced by every kind of manipulation.

November 28th. The patient having seated himself (with some difficulty) on the edge of a table, in a convenient posture for operation, a straight staff was passed into the urethra, and an incision about half an inch long was made through the integument and corpus spongiosum into the urethra. Through the opening thus made, a rough spiculum of bone was, with some difficulty, extracted. It was about three-quarters of an inch long, pointed at each end, and eaten away at the sides, where it varied in width, being about a fifth of an inch in its greatest diameter.

In answer to further inquiries, the following history was then obtained from him. Between nine and ten years ago, he was knocked down by a horse and cart; and as he lay on the ground, with his face downwards, one of the wheels passed over his pelvis. He rested from work, and remained in bed for about three weeks or a month, without receiving medical treatment. He was then brought to the Radcliffe Infirmary, complaining of lameness, with pains in the hip, which were attributed to rheumatism. He remained eleven weeks under the care of one of the physicians (the late Dr. Wootton), and was discharged without deriving relief. A succession of abscesses afterwards formed about the left side of the perineum, and one in front of the left thigh, below the bend of the groin. He knew nothing of the escape of any pieces of bone. At the end of about eighteen months from the time of the injury, he had recovered sufficiently to be able to return to his accustomed work as a labourer on a farm, without finding any hindrance, except from stiffness in his left hip. The cicatrices of several of the abscesses