SELECT CLINICAL REPORT.

(Under this heading are recorded, singly or in groups, cases to which a special interest attaches either from their unusual character or from being, in a special sense, typical examples of their class).

The Pelvis with Congenital Absence of the Sacrum.

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This specimen was shown at the meeting of the Obstetrical and Gynæcological section of the Royal Society of Medicine, May 11th, 1911.

THIS condition in the fœtus has been called by Taruffi¹ "Fœtus Acocono-lecanus" and is in man a rare abnormality. The example here recorded was obtained from a full term male fœtus of normal size. The mother's history is unimportant. She was a healthy woman aged 39, who had had eleven healthy full-term children; no miscarriages. There was slight accidental hæmorrhage during the fourth month of the pregnancy which was otherwise normal. There was no history of trauma. The child presented by the breech and was still born owing to retention of the head in the vagina. It was not a twin pregnancy. The placenta showed no gross change but the fœtus had the following obvious malformations:—

A hernia of small intestine extending three and a half inches into the umbilical cord.

Imperforate anus with absence of the lower part of the rectum.

Double talipes equino-varus.

On dissection the condition found was as follows:—

The head and thoracic viscera were normal.

The left lobe of the liver was divided into two parts by a deep groove on its under surface.

An accessory spleen was present.

The stomach was normal and most of the small intestine was in the sac of the umbilical hernia.

The large intestine was distended with meconium and ended at the level of the left iliac fossa in a fibrous cord which terminated behind the bladder.

The kidneys were represented by a median kidney bearing two supra-renals which measured 3.3 cms. long.

The ureter on the right side was normal; the left was a fine impervious cord running down to the bladder.

The urethra opened into the bladder which contained urine.

Radiogram to show termination of vertebral column above level of Iliac. The shadow below and to the left is from the soft parts which had not been removed when the radiogram was taken.

The left testis was in the scrotum but the right was attached to the right iliac fossa by a fold of peritoneum comparable to the broad ligament. Microscopic sections, however, show the structure of normal testis and epididymis. The left vas was normal but careful dissection failed to show any trace of a vas on the right side. From the lower pole of the right testis a fibro-muscular band [probably gubernaculum] ran to the connective tissue of the groin.

The spinal nerves were abnormal owing to the irregularity of the spinal column, but their softness prevented proper dissection; a large nerve trunk issued from a plexus in the lower dorsal region and ran down to the thigh, apparently representing the anterior crural and great sciatic nerves. Sections of the muscle of the thigh show normal muscle bundles.

The bones of the head, limbs, shoulder and pelvic girdles are normal.

The vertebral column is in a chaotic state so that identification of parts is not easy. The parts present are shown in the table.

Rib.	Right.	Laminæ.	Left.	Rib.
—	Normal	Atlas	Normal	—
—	Normal	Axis	Normal	—
—	Two laminæ present	3rd Cervical	Normal	—
—	Normal	4th Cervical	Normal	—
—	Normal	5th Cervical	Normal	—
—	Normal	6th Cervical	Normal	—
—	Absent or represented by the double lamina of 3 C	7th Cervical	As on right side	—
1st Rib	Normal	1st Dorsal	Normal	1st Rib
2nd Rib	Normal	2nd Dorsal	Absent	—
3rd Rib	Normal	3rd Dorsal	Normal	2nd & 3rd Ribs
4th & 5th Ribs	Fused	4th Dorsal	Normal	4th Rib
		5th Dorsal	Normal	5th Rib
6th Rib	Normal	6th Dorsal	Normal	6th & 7th Ribs
7th & 8th Ribs	Fused	7th Dorsal	Fused with 6	—
		8th Dorsal	Normal	8th Rib
9th Rib	Normal	9th Dorsal	Normal	9th Rib
10th Rib	Normal	10th Dorsal	Normal	10th Rib
11th Rib	Normal	11th Dorsal	Normal	11th Rib
Absent	Normal	12th Dorsal	Normal	Absent

Below the 12th Dorsal vertebra there are only two cartilaginous nodules, the upper measuring 2.2 cms. across and 1.5 cms. from above down. The lower nodule measures 1.3 cms. across and 1.5 cms. from

above down, the upper piece is partly ossified. The lower mass articulates by a synchondrosis with the left iliac bone, which is thickened in the region of the ilio-pectineal line to receive it.

The right iliac bone is not in contact with the vertebral column at all but is attached by ligaments. The lower three lumbar vertebrae and the whole of the sacrum and coccyx are thus entirely absent.

The true pelvis is represented by the innominate bones which approach each other within 2 mm. in the region of the ischial spines. The ischial tuberosities are 6 mm. apart, and the widest part of the iliac crests measures 5.3 cms. across.

The space between the ilia posteriorly was covered by a large pad of subcutaneous fat.

The condition of the centres of ossification is shown in the radiogram. It will be noticed that the lower nodule which is in contact with the left ilium does not contain any ossific centre.

According to Taruffi this condition is fairly common in the calf and pig, but he records no case in a human foetus in his book.

Ballantyne² states that the sacrum is usually absent in symphodia, the same authority has published an interesting case³ of an acardiac twin in which no vertebral column at all was present and the pelvis was represented by the two innominate bones which were in close contact posteriorly. No muscle could be demonstrated in the legs, adipose tissue only being present.

Luton⁴ described a somewhat similar case in an allantoido-angiopagous twin (quoted by Ballantyne).

Litzmann's⁵ case is unique in that his patient reached adult life and became pregnant three times. She was delivered of still-born children by forceps on each occasion, and died of peritonitis from rupture of the uterus after her third confinement. At the autopsy it was found that the sacrum was only represented by a semi-circle of bone measuring only $1.4 \times 1.5 \times .7$ cms. The pelvic measurements of the patient were inter-spinous 20.2 cms, inter-cristal 21.6 cms., conjugata vera 11.6 cms. and transverse (of brim) 10.5 cms. This patient was one of twins. The transverse contraction in this case was not as great as might have been expected from measurements of the Robert and Naegele pelvis, and the difficulties of delivery do not seem to have been very great, as Litzmann states that the second child weighed 3.5 kilos, and forceps was applied on account of prolapse of the cord. In this connection it may be noted that Galabin⁶ has drawn attention to the greater space which partial absence of the sacrum gives behind, and records a delivery with the cephalotribe through the posterior half of the outlet of the pelvis in such a case.

C. C. Wertheim⁷ described a female foetus (one of twins) in whom the vertebral column ended at the last lumbar vertebra. The sacrum was absent but a tumour, the size of a foetal head, formed of cysts containing blood separated the ilia from each other. Bland-

Sutton⁸ quotes a case where a woman at the eighth month was delivered of a child whose development below the umbilicus was that of a five-months' fœtus. Dissection showed that the spinal column ended at the first lumbar vertebra; the remaining lumbar and sacral elements being absent. In this case also the muscles of the legs were replaced by adipose tissue. Cibert and Tarricot⁹ have recorded a case where the whole pelvis and legs were absent.

The case now recorded is exceptional in that the child was not one of twins and that the leg muscles are present.

REFERENCES.

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