

Account of a Double Female Fœtus. By W. E. HORNER, M. D. Adjunct Professor of Anatomy in the University of Pennsylvania. [With a plate.]

AN eminent practitioner in an adjoining state was called within a few months to assist Mrs. —, in labour with her third child. At 4 o'clock, P. M. before his arrival, the membranes had ruptured. He found a head presentation, with the ordinary phenomena of labour, and the pains severe and frequent. At 7 o'clock the head of the child protruded through the vagina and continued in that state till 9 o'clock in the evening, at which period the mother was safely delivered of a dead female child, the subject of this communication. This infant having been brought to me for examination, the following is the result of the dissection.

External configuration.—The infant of ordinary size, having two heads and necks, one trunk, two upper and two lower extremities. The transverse diameter of the trunk was greater than usual. The head and neck which had presented first were tumid and highly injected with red blood, the latter having formed an extensive ecchymosis under the whole scalp between it and the pericranium: whereas the other fœtus was pallid.

Skeleton.—Two distinct lines of spinous processes of the vertebræ could be traced under the skin from the heads down to the pelvis, and which upon further examination, by removing the soft parts were found to arise from two spines, perfectly distinct from one another, excepting the lumbar vertebræ which adhered laterally by their transverse processes, and the ossa sacra, which were fused together like two sacra fixed edge to edge. The lower end of this double sacrum was bifid, and each fork had its own os coccygis. Each spine had its own distinct spinal marrow.

There was but one sternum, which was broader than usual, and exhibited by the double points of ossification, a disposition to form a double bone.

Allowance made for this state of the sternum and of the spines, there existed a total deficiency of the left side of the right skeleton and of the right side of the left skeleton, excepting the beginnings of the ribs on these defective sides. These ribs were distinct in both fœtuses, being joined by ligament to their congeners, so that the skeletons were united also by that arrangement, as well as by the adhesion of the lumbar vertebræ and of the sacra. The general mechanism of these fœtuses, resembled what would arise from cutting away the left side of one skeleton from the left shoulder to the sa-

crum, and by cutting away the right side of another skeleton in the same relative line, and then uniting the two skeletons by the symphysis pubis—by a fusion of the sterna at their contiguous edges—by a fusion of the contiguous edges of the two sacra, and a ligamentous adhesion of the contiguous stumps of ribs.

Internal organization.—The anatomy of the necks was very anomalous, adhering as they did laterally at their roots; we found the right sterno-hyoid muscle of the left fœtus, and the left sterno-hyoid muscle of the right fœtus, united together at their inferior ends, and forming a transverse muscle, (with a slight convexity downward,) running from one os hyoides to the other. The heart was placed in the neck, fairly above the sternum, and resting upon the upper end of the latter.

The heart, though but one body, evidently arose from the coalition of two hearts, one for each fœtus. For instance, on its right side was a right auricle belonging to the right fœtus, and to the left of this was a ventricle, from whose summit proceeded an aorta and a pulmonary artery for the right fœtus.

On the posterior side of the heart existed a middle auricle—the left internal jugular vein of the right subject, and the right internal jugular vein of the left subject, united into a common trunk, which discharged into this middle auricle. The latter was found to communicate with the right auricle aforesaid.

The left auricle of the left fœtus communicated by a round hole with the right auricle of the right fœtus; it also communicated by a hole above the former, with the middle auricle. The same left auricle had also an ostium venosum communicating with its left ventricle; from which left ventricle proceed the aorta of the left fœtus.

In front of the middle auricle was a middle ventricle, which sent off the pulmonary artery of the left fœtus, and also communicated with the middle auricle, and by a lateral opening with the ventricle of the right fœtus.

The summary of this arrangement is, that the three auricles communicated with each other, and the middle auricle communicated with the three ventricles, so that notwithstanding the complexity of the arrangement, the circulation was kept up. The middle ventricle we infer corresponded with the right ventricle of the left subject, inasmuch as it sent off the pulmonary artery of the left subject.

The thorax had three cavities—one for the right fœtus, a second belonging to the left fœtus, and a third cavity, behind and below the heart, belonging equally to the two fœtuses. There was consequently a right lung and a left lung as usual, and a third lung in the third ca-

vity, which lung had five lobes, and arose therefore evidently from the coalition of the two adjacent lungs of the different fœtuses. The thorax was separated from the abdomen by a diaphragm.

The cavity of the abdomen was single, but a disposition to duplicity was manifested in several of its organs.

The liver being one body, was convex on its upper side, and looked like a single liver, but on its under surface, the blending of two livers was perceptible in the increased number of its lobes, and also by there being on its middle a double gall-bladder, with a common duct from it, which duct terminated in two orifices, one for each duodenum.

There were two stomachs, one on the right and the other on the left, having their pyloric orifices pointed to each other. There were also two intestinal canals, for from each stomach proceeded a line of small intestine which was continued through the duodenum, jejunum, and the upper half of the ileum. These two lines adhered laterally to each other like a double-barrel gun, the adhesion beginning at the upper end of the duodenum, and continuing to the lower end of the jejunum; the two intestinal tubes then separated, and continued so one-half way down the ilea—afterwards they adhered laterally for two or three inches, and then blended into a single tube which terminated in the colon, in the right iliac region. From the single tube of the ileum, a short diverticulum arose, so as to exhibit again an effort at a double canal.

The colon was single, was properly formed, and exhibited a peculiarity only in being much longer than usual, perhaps twice the natural length.

There were two pancreases, and but one spleen, which adhered to the larger end of the left stomach.

There were two kidneys and they were unusually large, one being for the right fœtus and the other for the left; they had their corresponding capsulæ renales, and between the two latter existed a third.

There were two abdominal aortas, one for each fœtus, and which descended between the kidneys and between the two spines. These aortas became a common trunk above the pelvis; this trunk divided almost immediately into two branches, of which the left was by much the most considerable. The right branch being small, went only to the right side of the pelvis and the corresponding lower extremity, while the left branch, besides supplying the corresponding side of the pelvis, and lower extremity, was continued in a large trunk as the umbilical artery. This umbilical artery was the only one belonging to the umbilical cord.

There was but one urinary bladder.

The organs of generation were single, and exhibited no disposition to duplicity.

A plate of the skeleton of this foetus will be found in company with this description. A minute reference to it would be perhaps useless, as the eye perceives at once its peculiarities.

Philadelphia, April, 1831.