CONJOINED TWINS

Report of two cases with anatomical description of one twin

by

S. MISRA, M.B., F.R.C.O.G.,

Associate Professor of Obstetrics and Gynaecology,

R. G. Kar Medical College,

Visiting Obstetrician & Gynaecologist of R. G. Kar Medical College Hospitals and Ram Krishna Mission Maternity Hospital, Calcutta.

Obstetricians come across, on some occasions, an abnormally developed single foetus, but it is very rare to meet a double monster or a conjoined twin (Thoracophagus). All the known monster births have received their place in obstetrical records from very earliest times. It is a curiosity for the general people, a subject for thought for the embryologist, and a case of extreme difficulty requiring skilful judgment for the obstetrician.

I present the following reports of two cases of obstructed labour caused by double monsters or conjoined twins.

CASE NO. I:

Mrs. G. P., a primigravida, aged 17 years, started labour at term, in the evening of 16th April, 1951. A midwife was attending her in the patient's residence. On the morning of 17th April, the midwife, recognising this case as a breech presentation with slow progress and the patient being a primigravida, advised consultation. I was called at 9 A.M. to attend the case. The report was that the patient was being attended by the midwife during pregnancy and she did not suspect any abnormality. Labour progressed as usual and membranes ruptured spontaneously at 5 A.M. At about 8 A.M. when the midwife detected two feet presenting and the labour was slow, she expressed her inability to conduct the case.

On examination the patient was of average general health and stature. Abdominal palpation revealed that the uterus was unusually broad at the fundus; whole of that area felt hard, and the parts were not ballotable. Foetal limbs could not be detected as usual. Uterus was contracting with moderate intensity at 4 to 5 minutes' interval. Foetal heart sounds were heard over a wide area and the rate was 150 per minute.

External pelvic measurements were:

I.S. — 22 c.m. I.C. — 25 c.m. and External Conjugate — 18 c.m.

On Vaginal Examination:

Vaginal outlet was normal. Cervix was fully dilated and the membranes were absent. Two feet were presenting low in the vagina. In the attempt to ascertain the position of the breech, when the examining fingers were pushed up, another foot was palpated, and on further exploration one more leg was found extended.

At first, taking this case as an usual case of twins, with both amniotic sacs ruptured and lower limbs of both foetuses presenting at the same time, two feet of one foetus were located and traction was given in the attempt to deliver one foetus. At the same time attempt was made to push the other foetus up, in order to get more space in the pelvis. But not a single inch could be moved in either

direction. Finding the condition same as before, an anaesthetist was called in. Even under anaesthesia the foetuses could not be moved a single inch from the original position. On exploration it was found that the pelves of both foetuses were jammed in the maternal pelvis. Both breeches were pressed together and placed high up in the pelvis and there was also no space in the pelvis. Satisfactory exploration was not possible keeping the maternal danger in view.

The patient was in labour for a long time and already several attempts at vaginal delivery were made even under anaesthesia. It was thought proper to delivery by caesarean section in the proper surroundings. So the patient was taken to hospital.

I decided to perform caesarean section of classical type considering the size of foetuses, footling presentations, and breech jammed in the pelvis.

At the beginning I had this idea that as the patient had manipulations in her home in unsatisfactory surroundings it would be better if I could delivery the bodies from below after releasing the obstruction from above. On opening the uterus it was found that the foetuses were conjoined twins, and not only the heads had to be severed but the bodies had to be divided. That amount of manipulation after opening the uterus was thought improper. The twins were extracted from above. There were some lacerations in the vault of the vagina in the process of delivering the twins from above, as the legs which were lying in the vagina hitched against the vaginal vault. These lacerations and episiotomy wound were repaired.

As the patient was under anaesthesia twice and had several manipulations in the course of prolonged labour, 300 c.c. of whole blood and 250 c.c. of plasma transfusions were given. Intensive antibiotic therapy with penicillin and streptomycin was given in the post-operative period. The post-operative period was mildly febrile for a few days and the patient was discharged in good condition. Subsequently in 1954, she delivered naturally a healthy living infant.

Description of the 1st Conjoined Twins:

1. Both female, with full maturity, combined weight was 11 pounds. Two separate heads with adequate hair.
2. Four legs of almost equal length with 5 toes on each foot.
3. The twins were joined from shoulder to abdomen.
4. Both pelves were separate with normal female genitalia in both, and anuses were patent in both.
5. From the centre of the arch formed by the fusion of the thorax and upper abdominal regions of both foetuses, one umbilical cord was going to the placenta.
6. Three hands:
   (a) One hand from the left shoulder. Arm and forearm were normal in size and shape with 5 fingers. (Figs. 1, 3b).
   (b) Another hand on the right side, just right of the right side head. This hand was short with heel like projection in the place of wrist with 2 fingers. (Figs. 1, 3a).
   (c) The 3rd hand was situated behind at the junction of two shoulders with a short arm and regular length of forearm. Two palms were fused at the hypothenar eminences with 5 fingers at each part. (Figs. 2, 3c).
7. 2 Nipples:
   (a) One at the junction of right

shoulder of left foetus and left shoulder of right foetus.

(b) Another at a point below the right hand of the right foetus.

8. One Placenta — with one cord attached to the margin of placenta. One amniotic sac with one amnion and one chorion. There was no partition in the sac.

CASE NO. 2 :

Mrs. R. G., Bengali, Hindu, aged 24 years, married 11 years, primigravida, came in the Antenatal Department of R. K. M.S.M. Hospital, Calcutta, on the 23rd July, 1952 in her 32nd week of pregnancy. Her previous history of importance was that she had curettage on two occasions for her menorrhagia and sterility. At the first antenatal examination she was found in average health with 5 ft. height and 8 St. weight. Her blood pressure was 110/72 mm. Hg. Her pelvic measurements were I. S. — 22 cm.m., I.C. — 25 c.m., Ext. Conjugate — 19 c.m. Abdominal palpation revealed that the height of uterus was at the level of four fingers breadth above the umbilicus but the size of uterus was bigger and broader than the corresponding period of amenorrhoea. Twin pregnancy with breech presentation in both was suspected. Skiagraphy was advised. Radiologist's report was "Twins — both presenting by breech" (Figs. 5 & 6). The peculiar feeling of immobility of the foetal parts, the position of both foetal heads at about the same level in the X-ray examinations, and also from the experience of previous case, this case was provisionally diagnosed as conjoined twins. A further opinion was sought from the radiologist whether the foetuses were separate or joined together. The radiologist took another skiagram and was not definite about the conjoined twins. However I kept my opinion of conjoined twins and instructed the Resident Surgeon to inform me when the patient was admitted for confinement. She was not regular in her antenatal attendance. She was admitted into hospital on the 4th Sept. 1952 with membranes ruptured at her home. On examination — cervix was fully dilated and one foot was showing at vulva. The Resident Surgeon noticing no progress of the descent, tried to extract the breech, but he failed to do so. I reached there when he was struggling to deliver.

On Examination — Footing presentations were found in both and foetuses were joined together at the abdomen and thorax. At that stage of delivery, with the patient under anaesthesia, it was thought safer to deliver the twins by embryotomy. The foetuses were separated by cutting at the middle of the fused abdominal arch and proceeding upwards to the thorax. The separation was not very difficult (Fig. 7).

The episiotomy wound and two cervical tears were repaired. There was moderate post-partum haemorrhage. The weights of No. 1 foetus — and No. 2 foetus were 3 lbs. 6 oz. and 3 lbs. 9 oz. respectively. Length of foetuses was 16 inches in each. Placenta weighed 2 pounds. The patient had an uneventful puerperium. After that this patient had another pregnancy in 1955 which terminated at 39th week. The child was born alive and healthy.

Anatomical description of Case No. 2 : (Figs. 7 & 8).

The foetuses were delivered by dividing at the groove of junction of two bodies with utmost care, so that internal organs remained intact as far as possible. In the process of separation, the internal organs which were severed were the great vessels of the left foetus from the heart which was found placed in the right foetus, after separation. So the right side foetus has been marked as No. 1 or cardiac foetus and left side foetus has been marked as No. 2 or acardiac foetus. It appeared that the heart was more

or less in the middle of the joint thorax.

Externally, there was nothing abnormal except the conjoined state of the body. Head, face, eyes were normally developed. There were no abnormalities in the superior and inferior extremities. The scalp hair was well developed and lanugo hairs were seen all over the bodies. In both foetuses, testes had descended. Scoliosis was present in both foetuses. There was convexity toward the left in foetus No. 1 or cardiac and convexity towards the right in foetus No. 2 or acardiac.

One umbilical cord developed at the centre of the joined abdominal arch. There was an opening about 1″ at the junction of the cord and the abdominal wall through which intestines were protruding (exomphalos). The cut surface of the cord showed 4 vessels, two arteries and two veins. The placenta was single.

Thoracic and Abdominal Cavity

Lungs — Each foetus had two lungs.

One pericardial sac was shared by both foetuses.

Heart — A single heart for both foetuses with following peculiarities:

Left atrium not developed.

Right atrium and both ventricles developed.

Right atrium was common to both foetus. It had two openings leading to right ventricles.

There were separate right ventricular compartments with separate valvular arrangements.

There was a common ventricle on the left side.

Aortae 2 — Aorta of acardiac foetus joined anterior and upper aspect of left ventricle. Aorta of cardiac foetus arose from the posterior aspect of the left ventricle. Coarctation of the aorta — in both cases.

Superior Vena Cava: Right and left innominate veins joined in cardiac foetus and formed superior vena cava but they were separate in the acardiac one — and drained into the right atrium.

Inferior Vena Cava: Rudimentary in the cardiac foetus, and more developed in the acardiac one and drained into right atrium.

Pulmonary Veins — were present in both foetuses. Right and left veins first joined and then drained along with the respective aorta, in the left ventricle.

Livers — 2, fused together with one gall bladder for each.

Kidneys — 4, 2 kidneys with suprarenals for each.

Spleen — 1 for both foetuses.

Stomach — 2.

Oesophagus — 2.

Pancreas — 2.

Intestines 2 Coiled together with appendices and two coeca.

Comment

Reports of two cases of double monster or conjoined twins of thoracophagus variety with their obstetric management and also anatomical description of the internal organs of one of the conjoined twins have been presented.

Reports of these cases of obstetrical rarity are sometimes met with and attempts have been made to separate the twins for their separate

existence. It has been successful in some cases, but cases like those reported above cannot be separated successfully, owing to their inseparable internal and external organs.

Records of spontaneous delivery of thoracophagus twins are sometimes found in the literature but these are the cases of greatest obstetrical difficulties. Spontaneous delivery may be possible in premature or small sized or macerated twins and with large maternal pelvis. Maternal pelvis in both the cases was of smaller type. In case No. 1, the combined weight of twins was 11 pounds and in case No. 2, the combined weight was 7 lbs. One case (No. 1) was delivered by caesarean section after unsuccessful attempts at vaginal delivery. In this case any attempt at delivery by vaginal route after separation of the twins or by eviseration would have been a formidable procedure. In the other case (No. 2) vaginal delivery by separation of twins was possible as the foetuses were small and there was one groove between the joined thoraces. Caesarean section is the procedure of choice when a case of this variety is met with. This will avoid injuries to the maternal parts which are sure to be produced during the attempt at vaginal delivery.

Regarding the diagnosis of these cases, a radiograph is very helpful. Bony abnormalities or intimate fusion, if there be any, will be revealed. The most important point is that the two heads are more or less at the same level. This point was noticed in Case No. 2 when a radiograph was taken during the antenatal supervision. The position of foetal heads and unusual close relation between two shoulders led me to diagnose this case as of conjoined twins.

Acknowledgments

I am grateful to Professor of Cardiology Dr. J. C. Gupta, M.D. (Cologne), Major Subodh Ghose, Professor of Radiology, Major G. N. Mukherjee, D.M.R.D. (Lond.), and Dr. H. K. Chatterjee, M.B., D.A.E. (Paris), F.R.S.M. (London), Associate Professor of Anatomy and Dr. Charu Chandra Mitra, M.O. (Cal.), for anatomical description.

I wish to thank the Superintendent of R. K. Kar Medical College Hospitals and Secretary, R.K.M. Maternity Hospital for the use of hospital records.

Fig. 1.
Front view of the Conjoined Twins of Case No. 1.

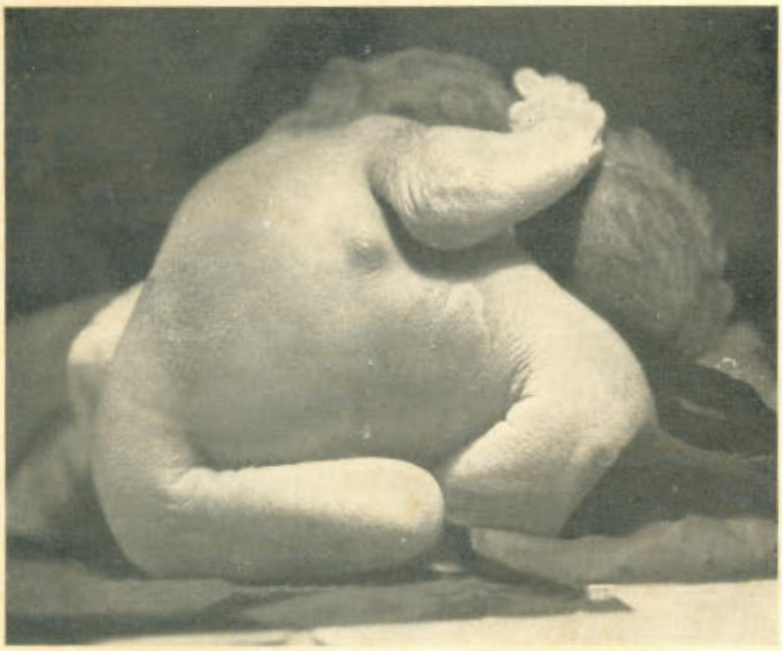

Fig. 2.
Back view of the Conjoined Twins of Case No. 1, showing the third hand with ten fingers.

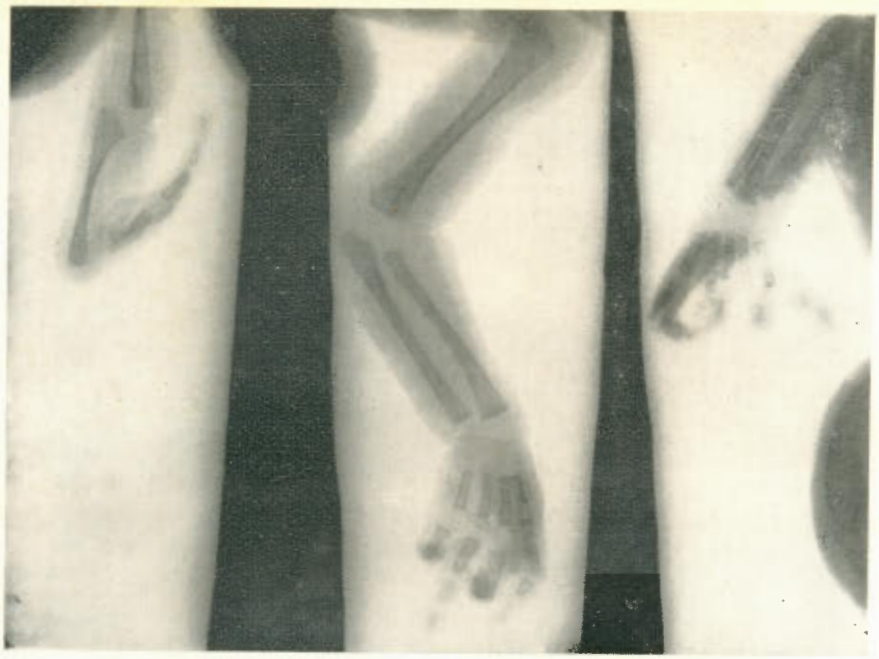

Fig. 3, a, b, c.
Skiagram of three hands of Conjoined Twins No. 1.

Fig. 4.
Antero-Posterior Skiagram of the Conjoined Twins No. 1.

Fig. 5.
Skiagram of abdomen of patient No. 2 taken during antenatal examination. Lateral View—Showing proximity of foetal shoulders.

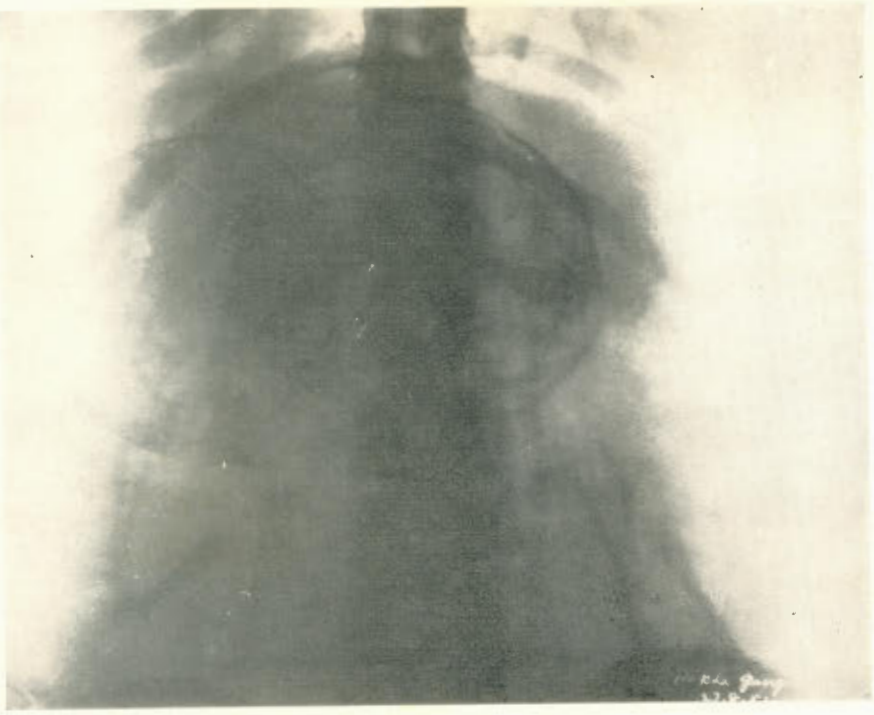

Fig. 6.
Second skiagram of abdomen of patient No. 2 taken during antenatal period. A P. view showing the foetal heads more or less at