A BRIEF REVIEW OF DOUBLE MONSTERS WITH DESCRIPTION OF TWO CASES OF THORACOPHAGUS

by

R. P. Soonawalla, M.D.,
Resident Medical Officer,
and
Dina N. Patel, M.D., F.C.P.S.,
Hony. Assistant Obstetrician,
Nowrosjee Wadia Maternity Hospital, Bombay 12.

Introduction

In all branches of the medical profession one comes across the routine cases which do not arouse interest, and are managed in a stereotype way, with a slight variation here and there. But there are also the cases which occur rarely and only a few get the chance to manage one. These are the cases that maintain the charm of medical practice. In an obstetrician's practice, delivering conjoined twins is one such example.

Definition, Classification, Incidence

Because of the difficulty or, more rightly, the impossibility to distinguish between a duplication of one or more limbs from a double monster, Schwalbe defines a double monster as one with at least some doubling of the body axis.

If the foetal bodies of both the babies are completely developed it is described as duplicatus completus while others would be duplicatus incompletus. The two babies may further be equal or unequal in size.

According to the region of union, various forms of symmetrical double monsters are described, namely pygopagus, ischiopagus, dicephalus, diprosopus, craniopagus, cephalothoracopagus, dipygus, thoracophagus, rachipagus.

Thoracophagus was the commonest occurring variety of the 110 cases of double monsters collected by Taruffi. Seventy-one were cases of thoracophagus. In these cases of double monsters the sex incidence as calculated by Forster is in the proportion of females to males as about 3 to 1.

As regards the embryonic development of double monsters there is no controversial view to the fact that they arise from a single ovum as there is always a single placenta, a single chorion and the same sex. But it is still a question whether these malformations arise from the union (fusion theory) or the division (fission theory) of the embryonic rudiments.

Obstetrical Importance of Double Monsters

Double monsters possess a very marked obstetrical interest. It is evident that the increase in size may

render the passage of the monster through the pelvis very difficult indeed, and in certain circumstances even impossible. If diagnosis is not made, rupture of the uterus is likely as a result of obstructed labour or it may take place during internal manipulations. This is to a certain extent prevented as the foetuses are small and premature or macerated and mostly present by pelvic presentation. Because of the rarity of such malformations no one obstetrician can have any large experience of this subject. Such labours take place usually as a surprise, and their course depends rather on the obstetrical dexterity, if not so much on the obstetrical knowledge of the obstetrician concerned. In many cases an external diagnosis of twin pregnancy has been made. According to G. Veit (who has given the best description of double monsters from an obstetrical point of view), such a malformation may be excluded with certainty, when two separate amniotic sacs can be recognized, or when a portion of the child lying uncovered can be felt near another part still covered by the membranes. If the first child in a twin pregnancy presents as a transverse lie, a double monster should be thought of, since a transverse lie of the first twin is very uncommon. If both heads in a twin case happen to lie at the same level, a double monster may be suspected.

The delivery of double monsters in a relatively large number of cases is accomplished by the natural forces; as a result of this it is often possible to observe in such cases a definite mechanism of labour. The recognition of this fact is very important in the treatment of such cases.

Case Reports

Case I.—Mrs. L., aged 24 years, para III was attending the ante-natal department regularly. She had two full-term deliveries. Last delivery was 2 years ago.

This time, when she was 6 months pregnant, she was admitted in the hospital and treated for malaria. At that time nothing abnormal was detected. The foetal parts were felt and the foetal heart sounds were heard. On 28-4-50, the patient came to the O.P.D. with the complaint that foetal movements had stopped since a few days and she wanted to know whether the child was alive. At that time she was about 8½ months pregnant. The presentation was vertex, position could not be made out. Head was soft and floating. Foetal heart sounds were absent. That same night the patient came with labour pains. Head was engaged and soft. Foetal heart sounds were absent and foetal parts not felt properly.

Diagnosis: Macerated foetus.

Soon after admission the scalp was seen and a part of the head born which was soft and macerated. The whole head came out except the chin which was brought out with great difficulty. The shoulders could not be extracted. The patient was given general anaesthesia and the posterior arm was hooked out. The anterior arm was taken out and then a third arm was seen no sooner the anterior arm came out. A vaginal examination was made and it was found that there was another head on the right side but smaller than the first. This head was not separate from the first foetus. It was attached to the same body. The first head was cut off from the body. Being a macerated child this was easily achieved with the scissors. Internal podalic version was done and a foot was brought down. The second foot was also brought down and traction was made on the feet. There was no progress, so the anaesthesia was stopped and it was decided to take an x-ray. In the meantime the patient was getting fairly good pains and the foetus was advancing. With a few strong pains the body was pushed out and finally the second head came out. It was a thoracophagus.

Puerperium uneventful.
Weight of thoracophagus: 7 lbs. 12 ozs.

Discussion

There was difficulty in extracting the foetus because traction was only made on the two feet that were brought down after the internal podalic version. If the other two feet were also brought down, the lie would have been completely longitudinal and there should have been no difficulty in the extraction. Under anaesthesia uterine pains were also weak. No sooner the general anaesthesia was stopped, the uterine pains returned and were strong. With the aid of good uterine pains nature helped in the delivery of the thoracophagus.

Case 2: On 6-3-1959 at 5 a.m., a second gravida was admitted at full-term for confinement.

On examination, fundal height corresponded to full-term pregnancy. One head was well engaged and another hard mass was felt in the umbilical region which was not freely ballottable. Two bodies could not be demarcated. The foetal heart sounds were heard over a wide area in the suprapubic region and the rate was constant all over. From these findings twins were suspected. On internal examination the cervix was found to be taken up and os could admit one finger. Membranes were intact and it was a vertex presentation. The lower pole of the vertex had reached upto the level of the spines.

At 1-40 p.m. the membranes ruptured, the head was born as face to pubes and remained as such, not undergoing the movement of external rotation. Traction was made on the head without any success. An attempt was next made to hook out the shoulders. The shoulders could not be extracted and hence it was decided to put the patient under anaesthesia and try extraction. At this stage it was suspected to be a case of conjoined twins. Under anaesthesia a vaginal examination was made and it was found that there were more than two arms and the babies were joined in the region of the thorax. The second head was found to be in the right iliac fossa, not separated from the trunk of the first baby. The feet were on the left side near the fundus. By this time the foetal heart sounds were absent. A decapitation was done for the first head with sharp scissors and then the whole hand was introduced inside the uterus and two legs were brought down. The other two legs were also caught and brought out, so that the axis of the child was longitudinal. The second head was pushed up to the fundus and the body extracted quite easily by traction on the feet. The placenta was expelled and the uterus explored and found intact.

Puerperium was uneventful. Weight of the babies 8 lbs. 2 ozs.

Anatomical Description of Case 2

External appearance:

(1) Both the foetuses were premature females, both together weighing 8 lbs. 2 ozs.

(2) Two separate heads with the normal quantity of hair. The head that presented first had hare-lip and cleft-palate, the second one being normal.

(3) The twins were joined completely in the thoracic region and by the upper parts of the abdomen.

(4) One umbilical cord running from the centre of the arch formed by the junction of the two abdominal walls to the placenta.

(5) There were two separate pelves each containing the normal female genital organs and having a normal patent anus.

(6) Four hands of almost equal length; normally developed, with five fingers on each hand.

(7) Three nipples:

(a) One at the junction of the right side of one foetus with the left side of the other.

(b) The other two situated normally, one on the left side of one foetus and another on the right side of the other foetus.

(8) Four legs of almost equal length, normally developed, with five toes on each foot.

(9) One placenta with one cord attached

almost to the centre of the placenta. One amniotic sac with one chorion, there being no partitioning in the sac.

Description of the Viscera: Thoracic and abdominal cavity:

(1) Lungs: Each foetus had two pleural sacs and two lungs.

(2) Pericardial cavity: One cavity common to the two foetuses.

(3) Heart: (a) Two chambers, each representing the ventricles of either foetus, but there was no partitioning of these chamber into the right and left ventricles. The walls of these two chambers were fused but the cavities separate.

(b) One large chamber representing the atria of both the foetuses so that there was neither partitioning into separate chambers for either foetus nor into the right and left atrium.

(c) Separate superior and inferior venae cavae for each foetus.

(d) Separate aortae and pulmonary trunks for each foetus.

(e) Separate pulmonary veins for each foetus, opening into the common atrial chamber.

(4) Diaphragm: Two cupolae for each foetus, fused ventrally in the region of the central tendon.

(5) Liver: A symmetrical mass, with only one gall bladder, shared by both the foetuses.

(6) Spleen: One for each foetus.

(7) Pancreas: One for each foetus.

(8) Digestive tract: Each foetus had its own complete digestive tract, with the following peculiarity:—

About an inch beyond the stomach there occurred a fusion of the two small intestines into a common tube, and separation took place a few inches proximal to the respective coeca and appendices; indicating that a part of the embryonic midgut was involved in this fusion and was common to both the foetuses.

(9) Urinary system: A pair of kidneys and ureters and a separate urinary bladder for each foetus. Correspondingly there were two large suprarenals in each foetus.

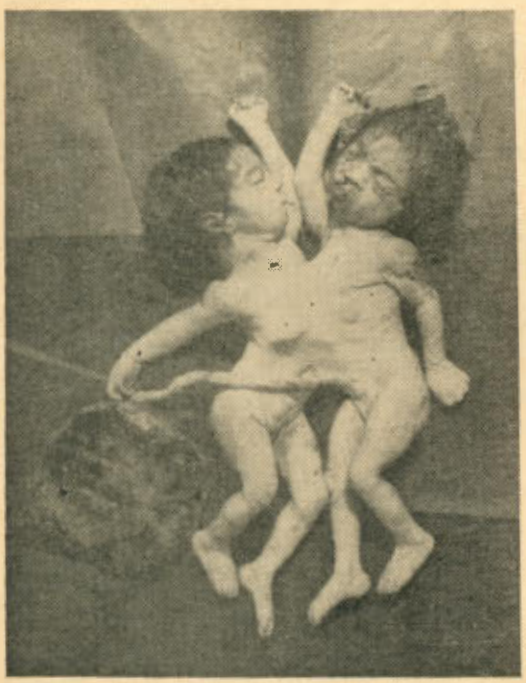

Fig. 1
Front view of conjoined twins of case No. 2.

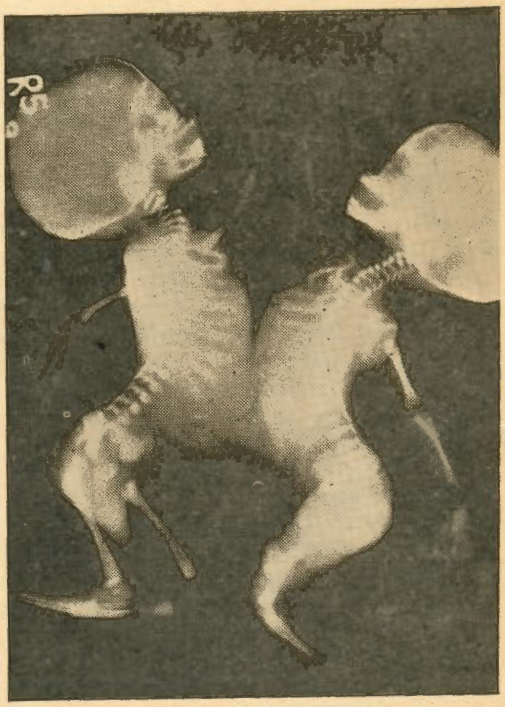

Fig. 2
Skiagram of conjoined twins of case No. 2.

(10) Genital system: The sex in both cases was female. A separate uterus with its tubes, vagina and external genitals could be clearly made out.

Comment

The process of fusion appears to have affected the entire region of septum transversum, cardiac tubes and a part of the midgut, and the cephalic part of the ventral body wall.

Comment

Reports of two cases of thoracophagus with their obstetric management and also anatomical description of one of the conjoined twins has been presented. A short review of double monsters is also given. The weight of the babies in Case 1 was 7 lbs. 12 ozs. and 8 lbs. 2 ozs. in the second case. In the first case the babies were macerated and in the second case the foetal heart sounds were present. At the birth of the head the first baby gave a few gasps. In both cases the sex of the babies was female. In both cases the first baby was presenting by the vertex. Both the cases were delivered vaginally by a similar method. The experience gained by the senior author in 1950, while delivering the first case was of immense value at the time of the second case. These cases are easily delivered by the pelvic presentation. In both cases as the first head was delivered it was necessary to decapitate this head and then to do an internal podalic version and bring down the feet. In the first case, as the condition was not diagnosed, only two feet were brought down and hence there was no progress. It was only after the anaesthesia was stopped that powerful uterine contractions appeared and nature helped in the delivery of the foetuses. This difficulty was kept in mind during delivery of Case 2 and hence there was hardly any difficulty at that time.

Two cases of thoracophagus have been reported in the Indian literature by Misra from Calcutta. In one case caesarean section was done, the weight of the babies being 11 lbs. In the other case the weight of the babies was 7 lbs. and an embryotomy was done.

Summary

(1) A brief review of double monsters is given.

(2) Two cases of thoracophagus have been described with anatomical description of one case.

Acknowledgment

We are grateful to Dr. K. N. Dastur, M.S., F.R.C.S., Honorary Surgeon, B. Y. L. Nair Hospital, Bombay, for dissection of Case No. 2 and Dr. (Miss) M. Bakhtiary for the anatomical description.

Our thanks are due to Dr. K. M. Masani, M.D. (Lond.), F.R.C.S., (Eng.), Honorary Obstetrician and Honorary Principal Medical Officer, Nowrosjee Wadia Maternity Hospital, Bombay, for his kind permission to publish this work.

References:

1. Birnbaum R.: Malformations and Congenital Diseases of the Foetus; J. & A. Churchill, London, 1912.

2. Forster: Quoted by Birnbaum, p. 304.
3. Misra S.: J. Obst. and Gyn. India; 7, 214, 1957.
4. Potter E. L.: Pathology of the Foetus and Newborn. The Year Book Publishers Inc., Chicago, 1953.
5. Schwalbe: Quoted by Birnbaum, 301.
6. Taruffi: Quoted by Birnbaum, 323.
7. Veit G.: Quoted by Birnbaum, 301.