

Case Report

Thoracopagus conjoined twin - a case report

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Abstract

A patient at her 38+ wks of pregnancy as a ultrasonographically diagnosed case of conjoined twin admitted in our department with ruptured membrane. Two live female babies joined at the chest were delivered by caesarean section. The parents refused a separation operation and the mother and the babies were discharged from hospital at 6th post natal day. A review of the literature suggests that early diagnosis by a combination of ultrasound and MRI is essential for management as it provides prognosis for viability and process of surgical separation and also the opportunity for early counseling of parents and termination if indicated.

Key word: Conjoined twins, thoracopagus, prenatal diagnosis, separation procedure.

Introduction

Conjoined twins are a subset of monozygotic twin gestation in which incomplete embryonic division occurs on the 13th-15th days following conception, resulting in varying degrees of fusion between two fetuses.¹ Conjoined twinning is rare, occurring in about 1% of monochronic twins, with an estimated incidence ranging from 1: 30,000 to 1: 200000 live birth^{2,3} and one in 650-900 twin deliveries⁴. An increased incidence of 1: 14,000 to 1: 25,000 is described in various parts of southeast Asia and Africa⁵. The exact incidence of this anomaly is unknown because most of them end in abortion or still births and hence may not be recorded.⁶ Some 40-60% of conjoined twins are reported to be still born, and approximately 35% of live births do not survive beyond the first 24 hours.³ There is a reported female predominance in the order of 3:1³. Classification is usually made according to the most prominent site of connection, the thorax (thoracopagus 30-40%) abdomen (omphalopagus; 25-30%) sacrum (pyopagus; 10-20%) pelvis (ischiopagus; 6-20%) skull (craniopagus; 2-16%) face (cephalopagus) or back (rachipagus).^{3,7,8,9}

In recent years pre-natal diagnosis has become possible at a very early stage of gestation and detailed

ultrasonography has provided an opportunity for the management of pregnancy and planning delivery.¹

This report presents a case of thoracopagus conjoined twins encountered in Fetomaternal Medicine wing of Obstetrics and Gynaecology Department of Bangabandhu Sheikh Mujib Medical University, Dhaka which was diagnosed in the third trimester of pregnancy and also presenting a brief review of the literature.

Case report

A 25 year old gravida 2, P1^{(c/s)+0} housewife of a middle socioeconomic condition hailing from Narshisgdi admitted in BSMMU hospital at her 38+ weeks gestation as a known case of conjoined twin with per vaginal watery discharge for 12 hours and slight lower abdominal pain. She was not on regular ANC. She had her first ultrasonography done at 35 wks demonstrated thoraco-abdominal conjoined twins with breech presentation and intra uterine growth retardation. Patient was then referred to BSMMU hospital and repeat scan was done which reveals conjoined twin of 31-32 wks gestation with breech presentation both fetal thorax and abdomen joint together, two fetal heads at the same level in the

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same plane and decreased amniotic fluid. Her previous medical, surgical and obstetrical history was unremarkable. There was no family history of twinning on either maternal or paternal sides, and no history of intake of medication or x-ray. On abdominal examination symphysiofundal height was 36 weeks size, fetal heart rates were 150 b/min and 140 b/min, uterus-contracted. On vaginal examination labial pad was soaked with liquor.

On the day of admission emergency caesarean section was done and two female fetuses joined at the chest, with combined weight of 3.3 kg, were delivered. A single umbilical cord had two arteries and one vein and the placenta was monochorionic monoamniotic.

Immediately after delivery, the neonates were transferred and admitted to the neonatal ward. On examination cleft lips were present in both the babies, otherwise no abnormalities noted. Intravenous saline was given to both the babies and oxygenation with nasal catheter. They passed urine and stool normally. Both babies cardio respiratory system was apparently normal and did not need any support. Against all medical advice the parents refused a separation operation. The mother and babies were at good condition till they leave hospital at 6th postnatal day.



Fig. : Conjoined twins in neonatal ward.

Discussion

Conjoined twins are rarely encountered and very few obstetricians are confronted with thoracopagus twins in their professional life.¹⁰ The birth of conjoined twins is therefore still received in various parts of the world today with emotions. In the case of any multiple pregnancy an USG examination has to be performed at an early stage of gestation (10-14 weeks) to determine chorionicity and amniocity because during early gestation chorionicity can be evaluated effectively. Visualization of the separated twins should be undertaken with care as conjoined gestations are always a possibility in monochorionic and monoamniotic cases.

Antenatal diagnosis of conjoined twins is usually uncommon, the fact that they are conjoined is usually not determined until late in gestation or during parturition.^{11,12} The diagnostic modalities available for antenatal diagnosis of conjoined twins include radiography, ultrasonography and magnetic resonance imaging. Of these radiography was the principal diagnostic modality formerly used in antenatal evaluation of conjoined twins, Gray and associates,¹³ established a list of criteria for antepartum diagnosis of conjoined twins: the heads are at the same level and body plane; the spines are in unusual proximity; the spines are unusually extended; the fetuses do not change position relative to each other after movement or manipulation. Ultrasonography and magnetic resonance imaging are more accurate modalities for antenatal evaluation of conjoined twins. In fact, Apuzzio et al¹⁴ reporting a case of prenatal diagnosis of conjoined twins found the fourth criteria of Gray and associates to be most important but superceded by ultrasonography in prenatal diagnosis of conjoined twins. Once diagnosed a careful search for fusion of any anatomical organs including the brain, liver, heart, extremities and spines should be carried out. A detailed survey of the vasculature of fused vital organs is very important in determining the prognosis of surgical separation and also owing to the high frequency of associated anomalies related to fusion, which include neural tube defect, orofacial cleft, imperforate anus and diaphragmatic hernia.

Now, 3D USG has come into clinical practices in obstetrics and gynaecology. A number of publications have suggested that 3D USG examinations seem to be an improvement on routinely applied 2D USG. It

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provides accurate data regarding fetal structures and biometry using multiplanar imaging as well as spatial surface animation which may enhance the diagnosis of fetal malformation.¹⁵ Various studies have already shown that 3-D USG might detect or exclude not only major anomaly but also particularly subtle fetal anomalies.¹⁶

The prognosis of conjoined twins depends on the degree of union and number of shared organs required to predict the viability and prognosis of the fetuses. Magnetic resonance imaging and computed tomography both provided excellent anatomic & bone detail, demonstrating organ position, shared viscera and limited vascular anatomy,¹⁷ but the consensus appears to be that optimal evaluation is obtained with a combination of USG and MRI.^{18,19}

In thoracopagus, twin fetuses usually have a common sternum, diaphragm, upper abdominal wall, liver, pericardium and gastrointestinal tract. Thoracopagus twins share the livers to some extent in all cases, the pericardium in 90% and heart in 75%.²⁰ Where the prognosis is poor, early diagnosis enables proper counseling of the family and gives the parents the option of termination.

In this case the diagnosis was not made so early due to irregular antenatal checkup and late booking for antenatal care. The ultrasound examination done in late trimester which showed that twins were con-

joined at the thoracic level; livers were fused, breech presentation with oligohydramnios. In such cases the separation of conjoined twins feasible with a good prognosis in an experienced center with proper preparation and operation.

Birth of a healthy baby is desirable for every parents. But any congenital anomaly is not only accepted by the family but also socially. In case of conjoined twins separation operation is sophisticated, very costly and prognosis is not always certain. In this case the patient is from a lower socioeconomic background and financially not solvent enough to bear the huge cost. So they refused separation operation. Management of this type of case is only possible if institutional poor fund or any social organization give financial support.

Conclusion

Early USG examination is important in twin gestations in terms of the early detection of normality or abnormality. If severe conjoined anomaly before 28th week of gestation is diagnosed, therapeutic abortion is possible and should be recommended to parents. In recent years outcome in conjoined twins has been improved as a result of more accurate imaging studies and better operation techniques. If there is no associated anomaly and surgical separation is feasible, continuing pregnancy can be recommended to parents.

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