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Thoracophagus conjoined twin: A case report

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ABSTRACT

Conjoined twins are a relatively uncommon congenital anomaly with a significant mortality and morbidity rate. Twins who are conjoined are the thoracopagus variation is one of the most common types of conjoined twins, in which the fusion is anterior, at the chest and affects the heart. We describe a case of a 19 years old primigravida who delivered conjoined twins by thoracopagus. A pregnant woman who had reached full cervical dilatation was admitted to the delivery room. She had an ultrasound, which revealed bigeminal pregnancy with two breech-presented foetuses that were perhaps conjoined twins. The foetus' dimensions determined by ultrasound corresponded to a gestational age of 22 weeks. The first foetus' heart rate was roughly 40 beats per minute, while the second foetus' heart rate was imperceptible. She delivered herself by manually extracting the foetuses. Unable to show any signs of life, one male and one female foetus were delivered. The cause of death was determined by autopsy to be thoracophagus.

Keywords: Pregnancy, conjoined twins, thoracophagus, ultrasonography.

1. INTRODUCTION

Two infants who are physically attached to one another at birth are known as conjoined twins (Mian et al., 2017). Conjoined twins are formed when a young embryo only splits partially to produce two individuals. Despite the fact that this embryo gives birth to two infants, they are still physically linked, most frequently at the pelvis, abdomen or chest. Additionally, conjoined twins may have similar internal organs. The most typical varieties of conjoined twins are thoraco-omphalophagus and thoracophagus twins (Trost et al., 2016). The sternum, diaphragm, and upper abdominal wall are typically fused together face-to-face from the upper thorax to the umbilicus. The typical pericardial sac and some degree of cardiac fusion are frequently present, which makes surgical intervention challenging. In 25% of instances, there is additional evidence of liver and biliary tree fusion. A fusion of the small intestine is a less common occurrence. Normally, the urinary system, large intestine and pelvises are distinct. In these situations, antenatal foetal echocardiography is essential and additional examination is carried out after birth. To completely assess the anatomy, cardiac angiography and cardiac MRI may also be necessary. Even though a lot of conjoined twins are stillborn or pass away soon after birth, survival rates have risen as a result of technological and surgical advances. Conjoined twins can sometimes be surgically separated

(Omran et al., 2020). The location and number and kind of shared organs will determine how well the surgery goes. It is also dependent on the surgical team's knowledge and experience.

2. CASE REPORT

We are reporting a case of a 19-year-old primigravida with 22 weeks of gestational age residing in rural area. She was an unbooked patient who came to casualty during emergency hours with abdominal pain that had been bothering her for two days. At 22 weeks gestation, an ultrasound revealed a bigeminal pregnancy with two breech-presented, possibly conjoined twin foetuses (Figure 1). Ultrasound measurements of the foetus indicated a gestational age of 22 weeks. The heart rate of the first foetus was about 40 bpm and that of the second foetus was barely audible. She complained of abdominal pain and a completely dilated cervix before giving birth to conjoined twins by manually extracting the foetuses (Figure 2). One male and one female foetus were delivered, but neither could demonstrate any signs of life. After two hours of administering prostaglandins and oxytocin, the placenta was delivered by manual extraction. The patient's health was stable. Routine blood investigations were sent which revealed normal findings. Both foetuses were sent for a histopathology analysis.

Figure 1 Showing primigravida with 22 weeks gestational age with ultrasonography report of conjoined twins

Figure 2 Showing conjoined twins delivered-thoracophagus and placenta extracted by manual removal

3. DISCUSSION

Conjoined twins are thought to occur once per 50,000 births. The most typical type of conjoined twins, known as thoracophagus fuses from the anterior thorax to the umbilicus (Ovlisen et al., 1974). 90% of thoracophagus twins have a shared pericardial sac and 75% have conjoined hearts. The most conspicuous sites of conjunction in conjoined twins are used to classify them: The thorax (thoracophagus), belly (omphalopagus), sacrum (pygopagus), pelvis (ischiopagus), skull (cephalopagus) and back (rachipagus). The most prevalent kinds, according to the aspect of the embryonic disc are thoracophagus (19%) (Mikolo et al., 2022). Although its cause is uncertain, during the 13th and 15th days following fertilisation, there is likely an incomplete division of the zygote. Conjoined twins have a 25% chance of overall survival. Girls are three times more likely than boys to have the condition. The timing of monozygotic twinning and the process of X-inactivation may directly affect the formation of monozygotic twins, according to two theories that have been put out to explain this fact. Conjoined twin genesis is explained by two opposing ideas. Conjoined twins are thought to indicate a delayed separation of the embryonic mass after day 12 of fertilisation, according to the classic theory of fission, in which the partially split fertilised egg, is. The second theory, known as fusion, states that even when a fertilised egg completely splits, stem cells (which search for cells with similar properties) find similar stem cells on the other twin and fuse the two together although these traits are unique to conjoined twins, certain monozygotic but non-conjoined twins also share these features in gestation. Conjoined twins have a single shared chorion, placenta.

Conjoined twins have been diagnosed earlier, but not before the 10th week of pregnancy. With rigorous transvaginal sonography and serial scanning, it appears to be impossible to distinguish between the foetuses' anatomical components. After conjoined twins have been identified, ultrasound, three-dimensional ultrasound, computed tomography or magnetic resonance imaging can be used to characterise the kind and degree of the anomaly. The family may be given the option of ending the pregnancy. Since the family decided to have the pregnancy terminated, subsequent diagnostic intervention has not been taken into consideration in the current study's diagnosis, which was made in the first trimester. Depending on where the twins are attached and the complexity of the shared internal organs, surgery to separate conjoined twins may be required the amniotic sac as well.

4. CONCLUSION

Pregnancy termination was done on a primigravida pregnant patient who was admitted to our clinic and had conjoined twins or thoracophagus, identified by ultrasound at a 22-week gestation. Thus, we concluded that the couple have the option of terminating a pregnancy when an early diagnosis is made through an ultrasonography examination.

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Informed Consent

Informed consent was obtained from the patient.

Author's contribution

All the authors contributed equally to the case report.

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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