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Conjoined thoracopagus twins – a case report

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Abstract

This case report presents a 34-year-old pregnant woman at 12 weeks and 4 days of gestation, who underwent a first-trimester ultrasound at a local hospital revealing a rare occurrence of conjoined thoracopagus twins. Her obstetric history included two previous singleton pregnancies with uncomplicated pregnancy and delivery. This case represents a rare obstetrical case with conjoined thoracopagus twins, and the necessity to perform a correct ultrasound diagnosis to ensure appropriate fetal and obstetric counseling.
Following a permission by the abortion counsel, the pregnancy was terminated at 13 weeks and 2 days of gestation by surgical uterine evacuation.

Keywords: Conjoined twins; thoracopagus twins; abortion

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Introduction

Conjoined twin pregnancies are a rare event, which occurs in approximately 1: 50.000-200.000 pregnancies. The incidence varies due to a high frequency of stillbirths and early abortions (1,2). Conjoined twin pregnancies are always caused by one fertilized oocyte dividing into monozygotic twins. Early division at day 0-3 of pregnancy, will result in dichorionic diamniotic twins. Division at day 4-8 results in monochorionic diamniotic twins; if the division occurs day 9-12, the result will be monochorionic monoamniotic twins. In rare cases, the division does not occur until after day 13 and then it will result in conjoined twins.
It has also been hypothesized that an incomplete closure of the ectoderm can cause a fusion between two fetuses and may be part of the pathogenesis.

The underlying cause of conjoined twins is multifactorial, and is not fully understood (1,2).
Conjoined twins is a very polymorph group of birth abnormalities, and they are categorized based on the body parts connecting the two fetuses. In this case, the thorax and its organs were connected which is called thoracophagus conjoined twins. This type of conjoined twins is the most common type and represents approximately 40% of cases (3).
The pregnancy of conjoined twins has many challenges and risks for both mother and fetuses. For the conjoined twins, the consequences are very diverse and depend on the severity of each presented case.
Surgical separation can be attempted but is rarely an option due to organ malformation and shared organs.

Without surgery, the outcome is dismal, and almost all of these children perish (3,4).
A systematic review of 158 cases of thoracophagus conjoined twins showed that 82 cases were found operable, however only 83 children survived, leaving a perioperative survival rate of 50% (4).
Dividing conjoined twins by operation is a very complex surgery and is only offered by specialized centers with expert teams assigned (4,5).
For the mother, pregnancy and birth is also very complicated. Premature labor is common and a high risk of birth lesions is present. Thus, a cesarean section is commonly accepted as the preferred delivery method (3).
Prenatal ultrasound is very important in evaluating and clarifying which organs are shared and the abnormalities of the involved organs. Especially the extent of cardiovascular malformation determines the prognosis. (3)

Case

We present a case with a 34-year-old pregnant woman with no previous medical history. Previously, she had two uncomplicated singleton pregnancies, both vaginal deliveries of healthy children. She had accepted to attend the routine pregnancy care in Denmark. To her general practitioner, she had reported fatigue and excessive nausea during the first-trimester.
A first-trimester scan was performed by a senior sonographer, and it revealed monochorionic monoamniotic twins. In the process of measuring the nuchal folds the images proved challenging. A fetal medicine specialist was consulted and found conjoined twins connected at thorax and abdomen. The head and upper limbs were independent and the lower body independent from the pelvis and down. Upon examination of the internal organs, only a single shared, functioning heart was identified. The conclusion: thoracophagus conjoined twins (Figure 1 and 2).

Figure 1: Ultrasound picture of conjoined thoracopagus twins in gestational week 12 and 4 days (publication with patient acceptance).

After obstetric consultation and thorough comprehensive information, the couple chose to terminate the pregnancy due to the high risk of morbidity and mortality for the fetuses. However, the gestational age was estimated to be 12 weeks and 4 days and thereby exceeding the limit for free abortion in Denmark which at that time was 12 weeks and 0 days.

The abortion counsel was consulted, and they approved the application to terminate the pregnancy based on the substantial malformations. A surgical evacuation of the uterus was performed. The post-operative period was complicated by retained tissue and 3 weeks after a hysteroscopy was performed.

Discussion

This case illustrates the vulnerability involved in any pregnancy but especially the despair in a pregnancy where major malformations occur. In Denmark, the law grants free abortion to any woman before week 12 of gestation. Beyond this point in pregnancy, a board consisting of a doctor, legal advisor, and social service advisors will evaluate the individual application of abortion and decide whether or not abortion can be granted. This system is considered fair and insures the legal certainty of both the unborn child and the pregnant woman. However, in some cases like the one described above, this procedure will procrastinate a difficult decision for the couple and leave them in despair until the decision is made. This process could also lead to the perception of impaired autonomy of the woman and her right to decide over her own body. Another problem with abortion consultation is that the boards and consultations are regional and therefore differences have been found across the country in the decision-making. This leading to inequality in the national healthcare services.

With the new Danish law that has recently been passed, the limit for free abortion will be at gestational week 18 and 0 days. This law was last regulated in 1973, and the new changes become effective 1st of June 2025. This new law will strengthen the autonomy of women and couples in Denmark and make them able to freely decide whether to keep or terminate a pregnancy, based on information from the first-trimester scan. This will relieve some of the stress and despair by not having to wait for the consultation and give couples a stronger sense of control and autonomy.

Conclusion

New improved ultrasound technology and software make it possible to detect many malformations already in the first trimester, which in Denmark is considered an advantage for the patients.

This case of thoracophagus conjoined twins illustrates the importance of thorough prenatal ultrasound to diagnose major abnormalities and guide the expecting parents in the best way possible.

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REFERENCES

1. Sundhedsloven LBK nr. 903 af 26/08/2019 available at: https://www.retsinformation.dk/eli/lta/2019/903

2. Poudel D, Shrestha S, Aryal R, Adhikari A, Bajracharya S. Thoraco-omphalopagus conjoined twin: A rare case report. Int J Surg Case Rep. 2022 Oct;99:107683. doi: 10.1016/j.ijscr.2022.107683. Epub 2022 Sep 19. PMID: 36137433; PMCID: PMC9568746.

3. Mutchinick OM, Luna-Muñoz L, Amar E, et al. Conjoined twins: a worldwide collaborative epidemiological study of the International Clearinghouse for Birth Defects Surveillance and Research. Am J Med Genet C Semin Med Genet. 2011 Nov 15;157C(4):274-87. doi: 10.1002/ajmg.c.30321. Epub 2011 Oct 14. PMID: 22002822; PMCID: PMC4457318