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An Inseparable 28 Weeks Conjoined Twins: A Report from a Teaching Hospital in the North of Iran

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Abstract

Introduction: This case report underscores the critical importance of early and accurate prenatal care in identifying serious fetal anomalies, such as conjoined twins (CT), which can significantly impact maternal and fetal outcomes. The failure to provide standard prenatal care not only led to a missed opportunity for early diagnosis but also resulted in a late-term cesarean delivery that inflicted considerable psychological trauma on the mother.

Case Presentation: A 29-year-old pregnant woman with suspicion of CT was referred to Al-Zahra teaching hospital due to painful contractions. She had not received standard prenatal care, and the first assessment was performed at 28 weeks of pregnancy. The results of abdominal examinations and Leopold maneuver showed that the fundal height (the distance from pubic bone to the top of the uterus) was about 30 centimeters and the fetal heart rate was 140 beats per minute. Abdominal ultrasound showed the two fetuses were conjoined from the face to the thoracic region. Due to the non-separable case, the pregnancy was terminated by cesarean section (CS) under spinal anesthesia. The CT weighed 1120 g and measured 38 cm in height and died after a while with no resuscitation effort.

Conclusions: This report emphasizes that a history of healthy pregnancies does not guarantee future uncomplicated pregnancies. Therefore, it is crucial for healthcare policymakers to implement comprehensive strategies ensuring that all pregnant women have access to necessary prenatal care, regardless of their financial situation or awareness of available services.

Keywords: Conjoined Twins, Prenatal Care, Pregnancy

1. Introduction

Conjoined twins (CT) are a rare congenital anomaly resulting from incomplete division of a single fertilized ovum, with a prevalence of 1 in 50,000 to 100,000 births. This condition presents significant medical, ethical, and psychological challenges, particularly when diagnosed late in pregnancy. Early prenatal detection via ultrasound — ideally in the first trimester — is critical to guide management, including the option of therapeutic termination in non-viable cases, thereby reducing maternal morbidity and emotional distress. The prevalence of CTs varies in different populations (1, 2). Approximately 25% of CTs who are born alive survive, and then a decision is made whether they can be separated (3). Separating CTs poses profound legal, ethical, and medical challenges, and requires careful consideration of parental rights, medical necessity, and the wellbeing of children. It is crucial to develop clear legal frameworks to ensure that these decisions are made in a fair and equitable manner (4). A few cases of thoracopagus CTs (5-8), as the most common type, and other types such as cephalopagus, craniopagus, rachipagus, and omphalopagus have been reported, but a combination of thoracopagus and fusion of faces has not been reported (9). Overall, it is a very rare type of monochorionic monoamniotic twins (1). This case is worth reporting from two aspects. One, this type of CTs

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is a rare phenomenon; second, it was diagnosed at 28 weeks of pregnancy, resulting in a cesarean section (CS), a preventable surgery. Late diagnosis prevented early intervention, necessitated cesarean delivery, and highlighted systemic gaps in perinatal education and access. The report highlights two key issues: The imperative for standardized prenatal screening protocols for early detection of neonatal abnormalities, and the broader public health need to address barriers to prenatal care, particularly in underserved populations. Emphasizing the consequences of late diagnosis, this case aims to advocate for policy-level reforms to improve maternal and fetal outcomes.

2. Case Presentation

A 29-year-old woman was admitted at Al-Zahra hospital, a referral and academic center affiliated with Guilan University of Medical Sciences (GUMS), due to severe lower abdominal pain and mild bleeding. She had not received any prenatal care or assessment during pregnancy until she was admitted to our hospital at 28 weeks. She did not have any noticeable medical history and did not receive any medication or supplementation. She was gravida 4 and her three healthy children were born via normal vaginal delivery. During the initial evaluations, it was determined that she had not received any prenatal care and screening before 28 weeks of pregnancy. The results of abdominal examinations and Leopold maneuver showed that the fundal height (the distance from pubic bone to the top of the uterus) was about 30 centimeters and the fetal heart rate was 140 beats per minute. Abdominal ultrasound showed the two fetuses were conjoined at the head, face, and chest. The amniotic fluid was maximally normal. The placenta was anterior, and no evidence of placenta accreta was seen. After the diagnosis of a non-separable case of CTs, it was planned to terminate the pregnancy and due to the gestational age of 28 weeks, a CS was considered. Spinal anesthesia was performed at the level of the third and fourth lumbar vertebrae (L3-L4) in the sitting position with 10 mg of Marcaine and under standard monitoring. Cephalothoracopagus type of CTs that were fused from the face to the thoracic part until the lower abdomen with one umbilicus, and two pairs of upper and lower limbs. Weighing 1120 g and 38 cm in length, was delivered and after a while they died and no resuscitation was performed. This type of CTs was rare, as the twins were completely fused from face and thorax (Figure 1). After explaining the importance of the issue and the valuable implications of publishing this case, informed consent was obtained.

Figure 1. Conjoined twins (CT) at 28 weeks

3. Discussion

This case report presents a rare and complex instance of thoracopagus CTs diagnosed at 28 weeks of gestation, underscoring the critical importance of early prenatal care and standardized screening protocols. Studies from Iran show that the rate of neonatal death has decreased during recent years; however, the status should be improved (10). The main lesson from this case is the necessity of early and accurate prenatal ultrasound screening, ideally in the first trimester, to detect congenital anomalies such as CTs. Early diagnosis allows for timely medical and ethical decision-making, including the option of therapeutic termination in non-viable cases, thereby reducing maternal morbidity and emotional distress. In this case, the lack of standard prenatal care led to a missed opportunity for early detection, late-term CS, and significant psychological trauma for the mother. This is consistent with existing literature that emphasizes the role of first-trimester ultrasonography in diagnosing CTs as early as 8 weeks of gestation (11). Beyond the technical aspects of diagnosis, this case also highlights broader public health challenges. The patient's failure to receive adequate prenatal care points to potential barriers such as lack of awareness, socioeconomic inequalities, or limited

access to healthcare facilities. Addressing these barriers requires holistic strategies, including community education programs, policy reforms to improve access to healthcare, and targeted interventions for high-risk populations. Studies have shown that empowering pregnant women with knowledge about prenatal care can significantly improve maternal and fetal outcomes. This case report is warning because CTs can be diagnosed in early pregnancy using an ultrasound between weeks 6 to 12 (8). Existing literature supports the notion that first-trimester ultrasonography can detect conditions like CTs as early as 8 weeks gestation. Early diagnosis allows for timely medical decisions, including the option of therapeutic termination in non-viable cases, which can mitigate maternal morbidity and emotional distress. The case illustrates how barriers to adequate prenatal care — such as lack of awareness, socioeconomic disparities, and limited access to healthcare — can prevent timely diagnosis and intervention (11, 12). Early diagnosis of CTs, prenatal care, and accurate ultrasonography in the first trimester are essential. Furthermore, advanced imaging techniques, such as magnetic resonance imaging (MRI) following suspicious sonography, can provide additional insights into embryological malformations and the prognosis for conditions like CTs (13). If diagnosed early in pregnancy, a legal and therapeutic abortion could be planned, without the need for major surgery and anesthesia. Aditiawarman from Indonesia reported a case of non-separable CTs, which was diagnosed by ultrasonography at 17 weeks of gestation and pregnancy was terminated. They concluded that CTs should be diagnosed as soon as possible so that both mother and fetus can be best managed (8). A study from Ghana reported a case of misdiagnosed non-separable CTs, who underwent CS at 28 weeks gestation. They reported that the reason for depriving her of standard prenatal care was because she could not afford the cost of the examination (14). Similar to this case, she had healthy children and normal pregnancies with no previous history of stillbirth or miscarriage. The contrasting cases highlight how timely diagnosis can facilitate appropriate management, including the option for legal and therapeutic abortion, thereby avoiding the need for major surgical interventions. Obviously, this event hurts mothers' emotions and body. She might suffer from psychological problems that could not resolve easily.

This case report highlights the importance of accurate and standard prenatal care for early detection of any lethal fetal anomalies and prevention of surgical intervention. To address these barriers, it is essential for public health strategies to focus on community education, policy reforms aimed at improving healthcare access, and targeted interventions for high-risk populations. Empowering pregnant women with knowledge about the importance of prenatal care has been shown to enhance both maternal and fetal outcomes. In this regard, healthcare policymakers should develop comprehensive strategies aimed at ensuring that all pregnant women receive prenatal care and no one should be deprived due to unawareness or financial reasons. The other notable point in this case was that a normal history and having healthy children does not guarantee subsequent pregnancies without complications.

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Footnotes

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