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Vanishing Twin Phenomenon in Dichorionic Triamniotic Triplet Pregnancy Presenting as Threatened Abortion: A Case Report

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Abstract: ***Vanishing twin syndrome refers to spontaneous intrauterine demise of one or more fetuses in a multifetal gestation followed by partial or complete resorption of the demised fetus. The phenomenon is increasingly recognized with the widespread use of early ultrasonography and the rising incidence of multifetal pregnancies. Higher-order multiple gestations complicated by vanishing fetuses are uncommon and present unique diagnostic and management challenges. We report a rare case of dichorionic triamniotic triplet pregnancy presenting as threatened abortion, where two fetuses underwent spontaneous intrauterine demise with subsequent resorption. A 27-year-old gravida 3 para 1 living 1 abortion 1 woman presented at 18 weeks of gestation with vaginal spotting. Ultrasonography revealed dichorionic triamniotic triplet gestation with one viable fetus and two demised fetuses. The patient was managed conservatively with close maternal and fetal monitoring. Pregnancy progressed uneventfully and resulted in favourable maternal and neonatal outcome. This case highlights the importance of early ultrasound diagnosis, careful counselling, and expectant management in dichorionic pregnancies complicated by vanishing twin phenomenon. Conservative management with regular follow-up can lead to successful pregnancy outcome when one fetus remains viable.***

Keywords: Vanishing twin, triplet pregnancy, dichorionic triamniotic, threatened abortion, second trimester bleeding

1. Introduction

Vanishing twin syndrome describes spontaneous intrauterine demise of one or more fetuses in a multifetal gestation followed by resorption of the fetal tissue by the mother, placenta, or surviving co-twin[1]. The condition was first recognized in the era of early ultrasonography and has since become increasingly identified with improved imaging modalities and increased use of assisted reproductive technologies[2]. Multifetal pregnancies, particularly higher-order gestations, are associated with increased maternal and fetal risks, including preterm delivery, growth restriction, hypertensive disorders, and perinatal mortality[7]. Among these, spontaneous fetal reduction or vanishing twin phenomenon represents a distinct clinical entity with variable outcomes depending on chorionicity, gestational age, and underlying etiology.

The reported incidence of vanishing twin phenomenon varies widely and may occur in up to 20–30% of multifetal pregnancies detected in early gestation[2]. Many early fetal losses may remain clinically unrecognized and only detected on serial ultrasound examinations. The etiology of vanishing twin syndrome is multifactorial, with chromosomal abnormalities accounting for the majority of early fetal losses[3]. Other proposed mechanisms include placental insufficiency, implantation defects, vascular compromise, uterine anomalies, and maternal factors such as thrombophilia. In early gestation, resorption of the demised fetus typically occurs without significant clinical consequences. However, later fetal demise may lead to complications such as infection, coagulopathy, or adverse neurological outcomes in the surviving fetus, particularly in monochorionic gestations[4].

Chorionicity plays a crucial role in determining prognosis. Dichorionic pregnancies generally have favorable outcomes because the surviving fetus has an independent placental circulation[5]. In contrast, monochorionic gestations carry a higher risk of complications due to vascular anastomoses, which may lead to hypotension, anaemia, or neurological injury in the surviving fetus following co-twin demise. Ultrasound examination remains the diagnostic modality of choice for identifying vanishing twin syndrome, assessing chorionicity, and monitoring fetal growth and wellbeing[9]. Early recognition allows appropriate counselling and expectant management.

Higher-order multiple pregnancies such as triplet gestations complicated by vanishing twins are relatively rare. These pregnancies require individualized management, considering maternal symptoms, gestational age, and viability of the remaining fetus. We report a rare case of dichorionic triamniotic triplet pregnancy with two vanishing fetuses presenting as threatened abortion, managed conservatively with favorable outcome.

2. Case Presentation

A 27-year-old gravida 3 para 1 living 1 abortion 1 woman presented to the antenatal outpatient department with complaints of spotting per vaginum for one day at 18 weeks of gestation. Her last menstrual period corresponded to 18 weeks of gestation and dating scan performed earlier confirmed the gestational age. She reported mild lower abdominal discomfort but denied passage of clots or tissue. There was no history of trauma, fever, or urinary symptoms. The pregnancy was spontaneous and not conceived through assisted reproductive techniques.

Her obstetric history revealed one previous full-term caesarean section performed three years prior for fetal distress, resulting in a healthy male child. She also had one first-trimester spontaneous abortion managed conservatively. There was no history of infertility treatment. Her medical history was unremarkable, with no chronic

illnesses such as hypertension, diabetes mellitus, or thyroid disorders. She had no known history of thrombophilia or autoimmune disorders.

On examination, the patient was hemodynamically stable. Her pulse rate was 86 beats per minute and blood pressure was 110/70 mmHg. She appeared mildly pale. Abdominal examination revealed a uterus corresponding to approximately 18 weeks gestation, soft and non-tender. No uterine contractions were noted. Speculum examination showed minimal bleeding from the cervical os, which was closed. There was no evidence of cervical dilation or active bleeding.

Baseline investigations revealed hemoglobin of 9.8 g/dL, indicating mild anaemia. Blood group was O positive. Platelet count and coagulation profile were within normal limits. Urine examination was normal. Ultrasound examination was performed to evaluate fetal status. The ultrasound revealed a dichorionic triamniotic triplet gestation. One fetus was viable with normal cardiac activity corresponding to 18 weeks gestation. Two additional gestational sacs were identified containing demised fetuses with no cardiac activity. The demised fetuses appeared small and collapsed, suggestive of early intrauterine demise with resorption. Placental location was fundal and posterior. No subchorionic hematoma was noted. Amniotic fluid volume around the viable fetus was adequate.

Based on clinical and ultrasound findings, a diagnosis of dichorionic triamniotic triplet pregnancy with two vanishing fetuses presenting as threatened abortion was made. The patient was counselled regarding the condition, possible risks, and need for close follow-up. Conservative management was planned. She was advised bed rest and started on progesterone support. Haematinics were prescribed for anaemia. Serial ultrasound examinations were planned to monitor fetal growth and resolution of demised sacs.

The patient remained hemodynamically stable and bleeding subsided within two days. She was discharged with advice for regular antenatal follow-up. Subsequent ultrasound at 22 weeks showed complete resorption of the demised fetuses. The surviving fetus demonstrated appropriate growth and normal anatomy. Doppler studies were within normal limits. The remainder of pregnancy was uneventful. The patient was monitored for complications such as preterm labor, growth restriction, and hypertensive disorders.

At 38 weeks of gestation, elective repeat caesarean section was performed in view of previous caesarean section. A healthy female baby weighing 2.8 kg was delivered with good Apgar scores. Placental examination revealed single placenta with no residual fetal tissue. The postoperative period was uneventful and mother and baby were discharged in stable condition.

3. Discussion

Vanishing twin syndrome has gained increased attention with widespread use of early ultrasound imaging[1]. Many multifetal gestations diagnosed in early pregnancy undergo spontaneous reduction before the end of first trimester. The phenomenon is more frequently observed in pregnancies conceived using assisted reproductive techniques, where multiple embryo implantation increases the likelihood of early fetal loss[2]. However, spontaneous multifetal pregnancies may also demonstrate similar findings.

Chromosomal abnormalities are considered the most common cause of early fetal demise in multifetal gestations[3]. Abnormal implantation, placental insufficiency, and vascular compromise may also contribute. In early gestation, resorption of the demised fetus typically occurs without significant maternal complications. Later fetal demise may result in persistence of fetal tissue as a heterogeneous intrauterine mass, sometimes described as fetus papyraceus[8]. In our case, the demised fetuses appeared collapsed and were gradually resorbed on follow-up ultrasound.

Chorionicity plays a major role in determining pregnancy outcome. In dichorionic gestations, each fetus has an independent placental circulation, reducing the risk of hemodynamic compromise to the surviving fetus[4]. Consequently, prognosis is generally favorable. In contrast, monochorionic gestations carry risk of neurological injury or demise of the surviving fetus due to shared circulation[5]. Our case involved dichorionic triamniotic pregnancy, which likely contributed to the favorable outcome.

Bleeding per vaginum is the most common presenting symptom of vanishing twin syndrome[6]. Other presentations may include abdominal pain or may remain asymptomatic and detected incidentally. Differential diagnosis includes subchorionic haemorrhage, placental abruption, cervical pathology, and threatened abortion[10]. Ultrasound evaluation is essential to confirm diagnosis, assess chorionicity, and monitor fetal wellbeing[9]. In our patient, ultrasound confirmed the diagnosis and guided management.

Management of vanishing twin syndrome is primarily conservative when one fetus remains viable. Expectant management with close monitoring is widely practiced[10]. Progesterone support and bed rest are often prescribed, although evidence for their benefit is limited. Serial ultrasound examinations are recommended to monitor fetal growth and detect complications. In dichorionic pregnancies, risk of adverse outcome is low, and most pregnancies continue uneventfully[5]. Our patient was managed conservatively with favorable outcome, consistent with existing literature.

Higher-order multiple pregnancies complicated by vanishing twins are rare. Triplet pregnancies inherently carry higher risk of complications including preterm birth, growth restriction, and hypertensive disorders[7]. Spontaneous reduction to singleton pregnancy may improve outcome by reducing uterine overdistension and placental competition. In our case, spontaneous reduction from triplet to singleton pregnancy likely contributed to favorable outcome.

Psychological impact on patients should also be considered. Counselling plays an important role in reassuring the patient regarding prognosis and need for follow-up. Patients may experience anxiety due to bleeding and loss of one or more

fetuses. Proper explanation regarding expected course and favorable outcome in dichorionic gestations is essential.

This case highlights the importance of early ultrasound evaluation in patients presenting with vaginal bleeding. Accurate determination of chorionicity and fetal viability guides management decisions. Conservative management with close monitoring is appropriate in stable patients with viable surviving fetus. Prognosis is generally good in dichorionic gestations.

4. Conclusion

Vanishing twin phenomenon in triplet pregnancy is rare but increasingly recognized with widespread ultrasound use. Vaginal bleeding in early or mid-pregnancy should prompt ultrasound evaluation to assess fetal viability and chorionicity. Dichorionic gestations generally have favorable outcomes when one fetus remains viable. Conservative management with close monitoring is appropriate in stable patients. Early diagnosis, counselling, and regular follow-up are essential for optimal maternal and fetal outcomes.

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