CASE REPORT

# Fetus Papyraceous in Diamniotic Dichorionic Twins: A Rare Entity

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## Abstract

Fetal papyraceous (also known as vanishing twin) is a rare condition defined as intrauterine death of one fetus in early twin pregnancy, with retention of that fetus for up to 10 weeks causing mechanical compression of the little fetus, which looked like parchment paper. It can also occur in triplet and higher order pregnancy. The primary concern of vanishing twins is on the alive fetus and mother. It can cause coagulopathy, preterm labor, obstructed labor, and postpartum hemorrhage in the mother and congenital anomaly and intrauterine death in the surviving fetus. Herein, we present a case of fetus papyraceous in a diamniotic and dichorionic twin pregnancy that was retained in the uterus for 5 months.

**Keywords:** Cesarean section, Obstetrics complications, Twin pregnancy.

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## Introduction

Multiple pregnancy has emerged as one of the high-risk conditions that obstetricians face most frequently. Twins represent approximately 3% of all live births. Multiple births account for 17% of all preterm births and 26% of all very low birthweight infants, who have a seven-fold increased risk of dying before reaching their first birthday. Fetus papyraceous or fetus compressus is defined as the intrauterine death of a fetus in early twin pregnancy, with retention of that fetus for up to 10 weeks; thus causing mechanical compression of the little fetus, which will look like a parchment paper due to loss of fluids.[1] It absorbs partially or completely, earning it the moniker "vanishing twin." Due to the absorption of amniotic fluid and the compression of the dead fetus between the living fetus's membranes and the uterine wall, it appears to be dry and papery.[2] It is a very rare condition. The incidence of fetus papyraceous is one per 12,000 pregnancies, whereas in twin pregnancies, it varies between 1:184 and 1:200 times.[1] Fetus papyraceous can occur in both uniovular as well as in binovular twins. But it is more common in the former.[3] The cause is typically unknown, but it has been associated with fetal genetic or chromosomal abnormalities, twin-to-twin transfusion syndrome (TTTS), and improper cord implantation such as velamentous cord insertion.[1] It can be associated with fetal and maternal complications. We present a case of fetus papyraceous due to its rarity.

## Case Description

A 28-year female, gravida 3 para 2 live 2 abortion 0 came to the maternity emergency unit of the tertiary care hospital of Uttarakhand, at a gestation age of 37 weeks 2 days with spontaneous conception with complaints of pain in the abdomen for 1 day. She was a housewife with little formal education. She had previous two cesarean sections with the last cesarean section 7 years back. The patient was a known case of hypothyroidism and was on the tablet Eltroxin. During this pregnancy, she was booked elsewhere. Her 11 weeks scan suggested dichorionic diamniotic twin pregnancy. Scanning of 19 weeks pregnancy stagewas suggestive of one fetus papyraceous and other live fetus. There was H/O bleeding at 11 weeks, which was resolved by bedrest and taking micronized progesterone. No H/O pain or leaking or bleeding occurred in later gestation. Initial general examination was unremarkable. The pulse rate was 98 per minute and her blood pressure was 124/70 mm Hg. Per abdomen examination revealed that the uterus was term size and cephalic presentation and mild contractions were present (1–2/10 minutes for 20 seconds), scar tenderness was present with the FHR of 136 bpm. Os was seen closed during a vaginal examination.

Her investigations including the coagulation profile were within normal limits. She had serial USGs done. The patient was taken up for emergency cesarean in view of the previous two cesarean sections with scar tenderness.

Intraoperative findings have revealed that previous scar was thinned out, an alive boy baby was delivered by vertex presentation with a birthweight of 2845 gms, and the APGAR score of 8/9/9 with no gross congenital anomalies. Fetal papyraceous of approximately

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**Conflict of interest:** None

**Patient consent statement:** The author(s) have obtained written informed consent from the patient for publication of the case report details and related images.

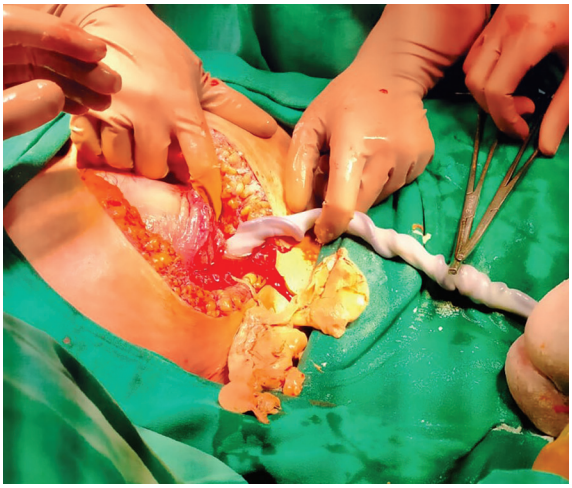

**Fig. 1:** Intraoperative picture showing fetus papyraceous with thin umbilical cord and a healthy umbilical cord

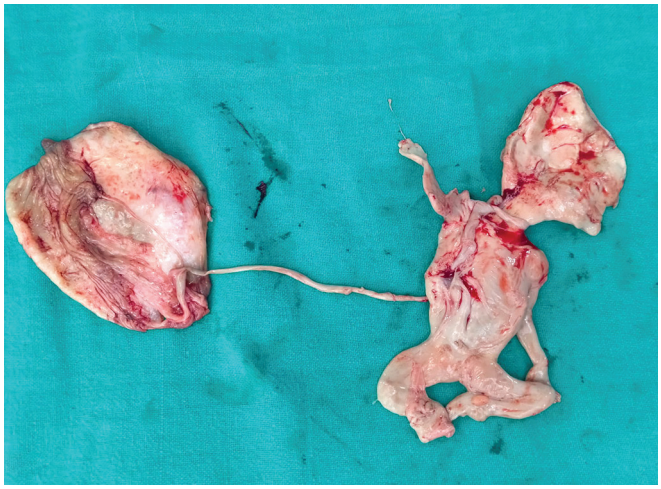

**Fig. 2:** Fetus papyraceous

15 weeks old, having 6 cm in length with a weight of 135 gms was delivered with placenta and membranes attached to the anterior uterine wall on the right side of the lower segment (Fig. 1) . Fetus was attached with a thread-like umbilical cord (Fig. 2). The attached placenta with membranes was very small and calcified. As seen on ultrasound, a separating membrane was seen between the two placentas, indicating that it was diamnionic pregnancy.

Her postoperative period was uneventful. She was discharged under satisfactory condition.

## Discussion

Fetus papyraceous (also known as vanishing twin) is a rare condition defined as the intrauterine demise of a twin in early pregnancy. Both uniovular and binovular twins can have a fetus with papyraceous characteristics. Due to the prevalence of vascular connections (85–98%) in cases of uniovular twins, intrauterine death is three times more common. Maternal complications include preterm labor, consumptive coagulopathy, labor dystocia, and sepsis as a result of the retention of a dead fetus.[1] Surviving fetal complications include congenital malformations, intrauterine growth restriction, prematurity, and death. Gastroschisis, aplasia cutis, intestinal atresia, central nervous system damage, absent ear, and anomalies of the heart are the congenital anomalies reported so far in the live fetus. These anomalies are mostly caused by thrombus and other clotting factors released from the dead fetus, which embolizes the live twin to produce vascular occlusion.[3] If the fetus is absorbed completely in the first trimester, there are usually no further complications to the pregnancy. Our patient was diagnosed with fetal papyraceous early in the second trimester due to good diagnostic facilities. The complication can be severe in monochorionic placenta rather than a dichorionic placenta. No association of parity or maternal age was found. In most cases, both the mother and the surviving twin remain healthy with no complications as in our case.[3] To assess the consumptive coagulopathy and maternal infection, biochemical, hematological, and ultrasonography monitoring of the mother in the antenatal period as well as after delivery is very important.[2] Detailed Newborn's examination is important to rule out congenital malformations. Histopathological examination of the placenta in the postpartum period can be helpful in knowing the causes of fetus papyraceous.

## Conclusion

The effect of fetus paparaceous on the mother and on the surviving fetus is a major concern. Maternal complications include preterm labor, consumptive coagulopathy, labor dystocia, and sepsis as a result of the retention of a dead fetus. Congenital malformations, prematurity, intrauterine growth restriction, and even the death of one fetus may be associated with the death of another fetus. Hence, ultrasound, hematological, and biochemical investigations are a must for fetomaternal surveillance.

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