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A rare case report: Fetus papyraceus

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Abstract
Fetus papyraceus is a rare condition in which a mummified fetus is observed in a multiple gestation pregnancy in which one fetus dies and becomes flattened between the membranes of the other fetus and uterine wall. The principal aim in such case is conserving the surviving twin without compromising the maternal health by planned and efficient maternal and fetal surveillance. We hereby present a case of monochorionic diamniotic pregnancy with one live fetus and one fetus papyraceus.

Keywords: Fetus papyraceus, twin pregnancy, rare

Introduction
The term fetus papyraceus / fetus compressus is used when intrauterine fetal demise of one of the twin occurs early in pregnancy, with retention of the fetus for a minimum of 10 weeks resulting in mechanical compression of the small fetus such that it resembles parchment paper [1]. It is tiny, macerated, fully formed fetus which is usually papery and dry because the fluid content in the dead fetal tissues and of the placental tissue gets absorbed. Twins represent approximately 3% of all live births [2], the incidence of fetus papyraceus being one in 12,000 pregnancies [3] and 1:184 to 1:200 in twin pregnancies [4]. It is observed in both monochorionic and dichorionic pregnancy with preponderance in the former. The cause is usually unknown, but is associated with twin-to-twin transfusion, fetal genetic or chromosomal abnormalities and improper cord implantation such as velamentous cord insertion [4, 5]. Antepartum diagnosis of fetus papyraceus is infrequent and usually it is a chance finding during investigation of some other pregnancy problem.
We present a case of twin pregnancy, with singleton normal fetus and with fetus papyraceus formation of other twin retained in uterus for 5 months.

Case Report
An unbooked 24 year housewife, Gravida 3 Abortion 2 with spontaneous conception at 38 weeks of gestation was admitted to labor room with complaints of pain in the lower abdomen. She was registered at an Anganwadi and according to her last antenatal visit at 16 weeks, she was diagnosed on USG with monochorionic diamniotic live twin gestation with 16 weeks parameter and routine investigations were within normal. Unfortunately, later she did not report any follow up visit. Past drug, medical & surgical history was insignificant. Family history was also not significant. On admission, vitals were stable and her general physical examination was normal. Obstetric examination revealed fundal height corresponding to full term, with a fetus in longitudinal lie and cephalic (4/5) presentation with regular fetal heart rate of 148 per minute and uterine contractions (3/35-40'/10). Per vaginal examination showed cervical dilation of 5 cm, effacement- 50-60% and presenting part felt as irregular sharp with mixed consistency. Due to uncertainty of the presenting part, decision of emergency caesarean was taken and a live term healthy female baby of 3.5kg was delivered. Along with placenta, a parchment like, mummified fetus was expelled out from lower uterine cavity, enveloped in amniotic membrane, flattened along placenta and attached by umbilical cord. On careful examination of placenta, two cords were noticed and it was identified as diamniotic-monochorionic placenta with a fetus papyraceous in the layers of amniotic membrane. Placenta had calcific patches in part attached to fetus papyraceus along with fibrotic dry cord. The fetus papyraceus had a crown–rump length of 15 cm and weighed 200gm (Figures1-2). Postoperative recovery was uneventful. Both the mother and baby were discharged home in good condition. The surviving twin is being followed up for neurological deficits.

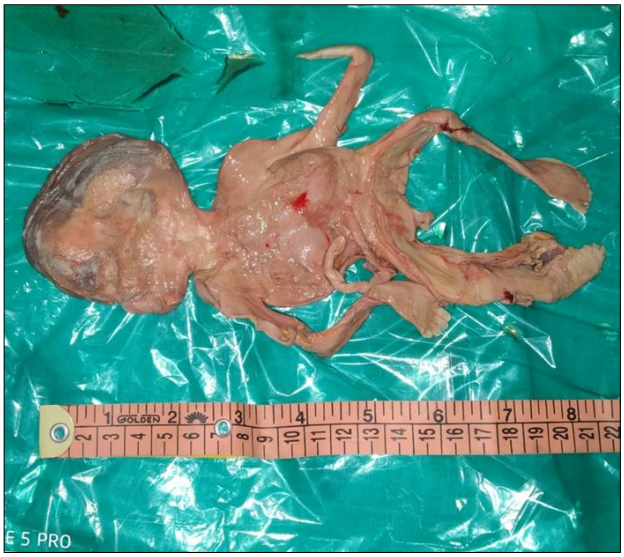

Fig 1: Crown rump length

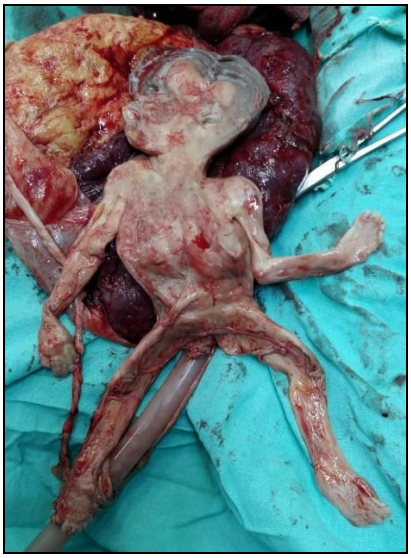

Fig 2: Fetus papyraceus with monochorionic diamniotic placenta

Discussion

Fetus papyraceus is a rare condition which can occur in monochorionic as well dichorionic pregnancies. Causative factors are largely unknown but is thought to associated with twin-twin transfusion syndrome, velamentous cord insertion, lethal nuchal cord, genetic/chromosomal abnormalities.

A fetus in multiple gestation which dies in utero can have multiple outcomes affecting the mother and surviving twin. It can get partially or completely reabsorbed leading to vanishing twin also termed as fetal resorption, presenting as first trimester vaginal bleeding, showing no complication thereafter. On the other hand, can get compressed into a flattened, parchment like state known as fetus papyraceus. Commonly, without any intervention, spontaneous miscarriage would eventually ensue with vaginal bleeding, cramping, watery discharge, pelvic pressure and lower back pain.

However, if this occurs in the second or third trimester, it is of greatest risk to surviving twin as serious complications may occur which include premature labor, infection due to the death of the fetus and hemorrhage. The conservative management of such cases should be followed by 2-3 weekly serial ultrasound and monitoring of coagulation profile every fortnightly. Counselling of attendants and patient regarding the potential chances of morbidity and mortality should be thoroughly explained.

The complications related to fetal papyraceus depend on whether it is a monochorionic or dichorionic pregnancy. Complications like prematurity, postpartum haemorrhage, low birth weight are more common with dichorionic pregnancies whereas cerebral palsy, aplasia cutis, congenital malformations are commonly found with monochorionic pregnancies.

If the dead products of conception remain in the uterine cavity for a long time, pelvic infection, sepsis syndrome, disseminated intravascular coagulation may occur. In monochorionic pregnancy, a single IUFD poses a significant risk of perinatal mortality and serious neurological impairment to the surviving co-twin [6]. The cerebral pathology in the survivor probably results from transfusion of thromboplastic proteins from the vanishing twin to the surviving twin, leading to disseminated intravascular coagulation (DIC) causing intrauterine central nervous system damage. Another possible mechanism is development of acute hypotension in surviving twin leading to intraventricular haemorrhage. As a result, pregnancy termination can be considered in such cases.

In our patient, fetus papyraceus was diagnosed during caesarean delivery. As the fetus papyraceus was low lying in position it lead to uncertain presentation on vaginal examination, so emergency cesarean was performed. Otherwise with even low lying fetus papyraceus without any fetal compromise to surviving twin, majority of patients will deliver vaginally after spontaneous onset of labour [7]. Fortunately, our patient and surviving twin did not report any complications till discharge.

Fig 3: Fetus papyraceus with surviving twin.

Conclusion

The basic concern for fetus papyraceus is its effect on the surviving fetus and on the mother. To avoid possible complications, the intrauterine diagnosis of fetus papyraceus by serial ultrasound examinations and routine placental examination to search for fetus papyraceus should be kept in mind. After termination of twin pregnancy, thorough inspection

of the newborn baby and histopathological investigation of the placenta is crucial [8]. When fetus papyraceus is diagnosed early, expectant management with close fetal and maternal surveillance is advised [4, 9].

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