

Fetus papyraceous: a rare cause for obstruction to spontaneous placental expulsion

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Abstract Fetus papyraceous is a mummified compressed fetus occurring in association with a viable twin. Incidence of this rare condition is 1 in 12,500 cases of twins. We report a case of fetus papyraceous which caused obstruction to spontaneous expulsion of placenta. Antenatal diagnosis by ultrasound examination is not always possible. Careful exploration of placenta after delivery is recommended. Diagnosis of this condition helps in evaluation of risk to surviving fetus as well as registration and documentation of this rare condition.

Keywords Fetus papyraceous · Twins · Multiple pregnancy · Mummified fetus · Placenta

Dear Editor,

In multiple gestations, intrauterine death of one fetus occurs quite frequently [1]. Sonographic studies indicate that many twin pregnancies are converted in early pregnancy to singleton pregnancies. Ultrasonic examination of early pregnancies can lead to the discovery of “vanishing twins” [2]. The vanished twin is sometimes recognized as a fetus papyraceous (compressus), incorporated into the placenta of the survivor [1]. Fetus papyraceous (FP) is a mummified

compressed fetus occurring in association with a viable twin. The incidence of this rare condition is 1 in 12,500 cases of twins [3]. Fetal death in a multiple gestation has serious clinical implications for a surviving co-conceptus and failure to inform parents of an early death in a multiple gestation may have important repercussions [4]. It is important to diagnose FP and register to prevent error in birth registrations, coding of twins and higher order multiples [5]. We report such a case of FP which was delivered with coexisting live healthy twin.

A 26-year-old third gravida, with term pregnancy presented to labor room in latent labor with premature rupture of membranes. She had spontaneous conception; there were no antenatal high risk factors and she had only one ultrasound done in second trimester, which showed singleton gestation. There was no history or ultrasound report suggestive of prior diagnosis of twin pregnancy. Pregnancy was uneventful throughout. She delivered a live term healthy baby of 2.9 kg. Placenta was not expelled at the end of 15 min, even after signs of placental separation were evident. Examination revealed a hard mass in vagina, which was obstructing the placental expulsion. Careful removal of obstruction under vision along with delivery of placenta revealed a fetus papyraceous (Figs. 1, 2), which was incorporated in the placenta. This FP was obstructing placental delivery. Figures 1 and 2 show umbilical cord of healthy baby in a clamp and attachment of the umbilical cord of FP baby to the same placenta. A dried and mummified FP can be seen in the picture weighing 300 g. Placenta was diamniotic and dichorionic.

A higher prevalence of congenital malformations among twins than among singleton has been reported in literature [6]. Fetus papyraceous is a rare complication in twin pregnancy [7]. Our patient had not undergone ultrasound examination in first trimester. Antenatal diagnosis of twin

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Fig. 1 Fetus papyraceous



Fig. 2 Fetus papyraceous

gestation was not made. FP was not diagnosed by an ultrasound examination which was done in second trimester. Some authors agree that ultrasound detection of FP is not always possible due to anatomical position and technical difficulties [7]. Some authors have found laterally displaced FP or stuck twin (dead, small fetus attached to uterine wall) by performing careful ultrasound examination [8]. Serum alpha-fetoprotein (AFP) levels may guide the conversion of a fetus in multiple pregnancy to fetus papyraceous, where AFP levels fall to normal levels of singleton pregnancy by completion of mummification of one fetus [9–11]. Our patient presented to us with premature rupture of membranes as observed by various other authors [3, 12]. Various skin abnormalities like aplasia cutis congenita and congenital

skin defects are associated with FP [12–14]. FP was found to be more likely among pregnancies exposed to high concentrations of methylene blue dye during second trimester procedures like amniocentesis [15]. In our case, FP was found incorporated in the placenta of surviving twin which is similar to observation by few authors [1]. FP is reported to cause obstructed labor warranting caesarean section [7]. FP can also present as covering the site of uterine perforation during caesarean section [16]. In our case, we had a unique situation, where the spontaneous placental expulsion in third stage of labor was obstructed due to FP baby. Such a case is not reported in the literature. Placental emboli from a FP and increased incidence of cerebral palsy in surviving twin have been described [14, 17]. These concepts emphasize the importance of careful examination and thoughtful interpretation of twin placentas [1].

We conclude that, fetus papyraceous is a rare complication of twin pregnancy. It is not always possible to diagnose the FP by ultrasound examination. FP may lead to various complications like obstructed labor; and delay or obstruction to placental delivery. Careful exploration of placenta after delivery is helpful in detecting any undiagnosed FP. This condition can co-exist with normal healthy fetus. Diagnosis and documentation of the FP cases helps to maintain accurate records, statistics, birth registration and coding.

Conflict of interest statement Authors declare that they have no conflict of interest.

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