

## Umbilical Cord Stricture Causing Intrauterine Death

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Dear Sir,

A 27-year old woman in her first pregnancy was diagnosed with intra uterine fetal death (IUFD) at 37 weeks gestation. She was booked at 11 weeks gestations. Her booking bloods were normal and serology was negative. The woman was non-smoker and of a normal BMI. A booking ultrasound scanning (USS) was done at 11 weeks and 6 days gestation, which revealed a viable intrauterine pregnancy with low lying placenta. Her pregnancy was categorised as normal risk.

The woman had a combined regular antenatal visits at 30, 34 and 37 weeks gestation which was unremarkable.

USS for placenta site at 30 weeks gestation was normal and the estimated fetal weight (EFW) was between 50<sup>th</sup> and 90<sup>th</sup> centiles.

At 37 weeks and 4 days, she presented to the clinic with a history of reduced fetal movements of 1 day duration. On abdominal examination, the uterine size was equivalent to 37 weeks gestation. The fetus was in longitudinal lie with a cephalic presentation. No foetal heart was heard on abdominal examination and an USS confirmed IUFD. The couple were debriefed and a plan was made to induce labour. At 38 weeks gestation a female infant of birth weight 2.97 kg was delivered vaginally.

Postnatal maternal and fetal investigations did not detect any abnormalities. Neither growth restriction nor anatomical abnormalities were noted. The 50.5cm long umbilical cord had 2 strictures at 20cm and 39cm from the foetus. The foetal death was thought to be due to a possible stricture in the umbilical cord. The woman's age, health and previous history showed no link with this condition.

Umbilical cord constriction is an uncommon event that can cause intrauterine fetal demise <sup>1</sup>. The condition is characterized by localised absence of Wharton's jelly, causing a narrowing of the cord, thickening of the vascular walls and narrowing of the vascular lumens <sup>2,3,4</sup>. The exact aetiology is unclear, it is thought to result from twisting of the cord during foetal movements <sup>1</sup>. Usually a decrease in foetal movements is the only symptom and foetal death occurs shortly after <sup>3</sup>.

Families who have IUFD due to cord constriction should be appropriately counselled about the possibility of small risk of recurrence and the need for strict foetal monitoring for future pregnancies <sup>2</sup>. A sudden change in foetal activity or physiologic signs warrants consideration of this uncommon condition in all pregnancies by clinicians and pathologist.

Currently, stricture of umbilical cord is not a preventable condition, however, further research perhaps could help in identifying risk factors and precautions to decrease future occurrence.

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