

# A Rare Case of Fetal Distress from Umbilical Cord Strangulation by Amniotic Band in the Third Trimester



Dr Alessia Bragagnolo (MD), Dr Jacob Adeniyi (MBBS, FRCOG, FRANZCOG)  
Bundaberg Hospital, Queensland



## Introduction

Amniotic band syndrome (ABS) as a cause of fetal malformation has an incidence of 1:1200 to 1:15000 live births<sup>1</sup>. ABS with umbilical cord constriction is rare and often described in the setting of intrauterine fetal death or stillbirth<sup>2</sup>. We present a unique case of fetal distress in a late pre-term fetus, associated with umbilical cord strangulation by an amniotic band, and resulting in emergent delivery of a live neonate.

## Case Report

A 28-year-old G3P1 at 36+3 weeks gestation presented to hospital with a 24-hour history of absent fetal movements.

She previously delivered vaginally at term. Her medical history was significant for obesity, depression/anxiety, and gastric sleeve surgery which inadvertently occurred very early in this pregnancy. As a result, her antenatal course was complicated by hyperemesis and a 23kg weight loss.

She received routine hospital antenatal care through her pregnancy. Initial antenatal screening was normal and morphology ultrasound scan (USS) did not reveal any fetal anomalies. Subsequent growth USS showed normal fetal growth, with EFW on the 64<sup>th</sup> centile, and normal AFI and dopplers.

There were no antenatal attendances for reduced fetal movements prior to this presentation. Cardiotocography on arrival was abnormal and indicative of fetal compromise (Figure 1). A decision was made for emergent Caesarean section (CS) delivery.

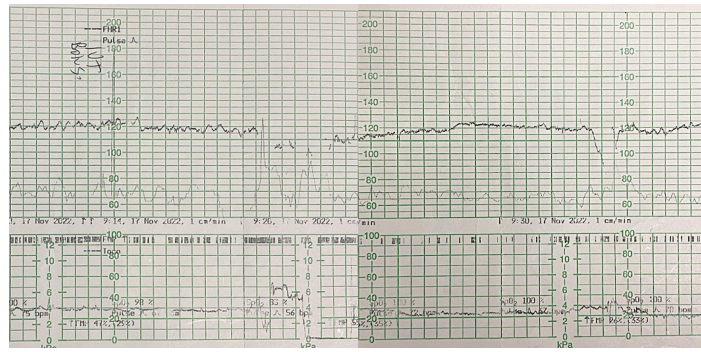


Figure 1: Abnormal CTG on patient arrival prompting CS delivery

## Results

A live male neonate was delivered via uncomplicated emergency CS in poor condition and requiring resuscitation. He weighed 2755g (48%) and did not have any apparent malformations.

Examination of the umbilical cord showed an amniotic band causing strangulation (Figure 2). The placenta appeared normal.

Histopathology confirmed an amniotic band constricting the umbilical cord with focal fetal vascular malperfusion, villous oedema and increased nucleated cells in the fetal vessels suggesting fetal hypoxia.

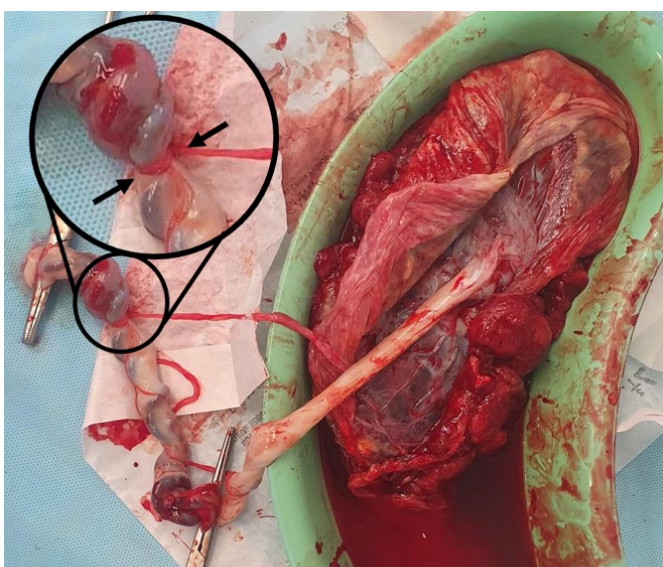


Figure 2: Amniotic band causing umbilical cord strangulation (magnified and identified by black arrows)

## Discussion & Conclusion

Umbilical cord strangulation occurs in ~10% of ABS cases<sup>3</sup>. Most of these cases result in intrauterine death due to difficulties in making a timely antenatal diagnosis, particularly when umbilical cord constriction occurs independent of other fetal malformations that may be detected at USS<sup>4,5</sup>. A history of reduced fetal movements is reported in many instances, as is the case with our patient, and highlights the importance of fetal movement counselling, as well as the need for clinicians to consider ABS with umbilical cord strangulation as a possible cause of fetal distress.

## References:

1. Marino T. Ultrasound abnormalities of the amniotic fluid, membranes, umbilical cord, and placenta. *Obstet Gynecol Clin North Am* 2004; 31(1): 177-200.
2. Timur H, Iskender C, Daglar HK, Kaymak O, Kirbas A, Danisman N. Strangulation of umbilical cord by an amniotic band: A rare cause of stillbirth in the third trimester. *J Cases Obstet Gynecol* 2004; 2(2): 37-39.
3. Peiro JL, Carreras E, Soldado F, Sanchez-Duran MA, Aguirre M, Barber I, et al. Fetoscopic release of umbilical cord amniotic band in a human fetus. *Ultrasound Obstet Gynecol* 2009; 33(2): 232-4.
4. Lurie S, Feinstein M, Mameet Y. Umbilical cord strangulation by an amniotic band resulting in a stillbirth. *J Obstet Gynaecol Res* 2008; 34(2): 255-7.
5. Duckworth H, Leather A, Jessop F. Intrauterine death and growth restriction at term, secondary to an umbilical cord amniotic band. *J of Obstet Gynecol* 2011; 31: 547.