### ABSTRACT

Vasa previa (VP) is a condition in which the fetal vessels, unsupported by either the umbilical cord or placental tissue, traverse the fetal membranes of the lower segment in close proximity to the cervical internal os. The reported incidence varies from 1 in 1275 to 1 in 5000. VP usually occurs in association with velamentous insertion of the umbilical cord, bipartite placenta, or succenturiate lobe.

For women diagnosed antenatally the neonatal survival rate and the neonatal blood transfusion rate are 97% and 3.4% respectively, compared to 44% and 58.5% respectively for women who did not have an antenatal diagnosis. However combining colour flow mapping with abdominal and trans-vaginal ultrasound, there was a marked improvement in antenatal detection.

**Case report:** 30 year old spontaneously conceived Primi gravida was antenatally diagnosed with VP. There were no ultrasound features of associated risk factors. Prenatal diagnosis helped in proper planning to get the best neonatal outcome.

**Conclusion:** Antenatal diagnosis of VP has significant impact in reducing perinatal mortality and morbidity. Unusual cases of VP without any risk factors make a case for routine screening of VP.

### BACKGROUND

Vasa praevia (VP), whilst uncommon, causes significant fetal mortality if undiagnosed. Two types of VP are recognised. Type 1 VP involves velamentous insertion of the cord. Type 2 VP refers to exposed interconnecting vessels passing between lobes of placenta (e.g. bipartite placenta, succenturiate lobe). It is postulated that VP occurs when a vessel traverses marginal placenta that undergoes trophotropism and involution of cotyledons of a placenta praevia. Risk factors of VP include placenta praevia, low-lying placenta, bilobed placenta/succenturiate lobe, velamentous cord insertion, IVF and multiple pregnancy.

### DISCUSSION

The current RANZCOG College statement suggests routine colour Doppler scanning of placental cord insertion with only additional examination of the lower uterine segment/cervical region with low flow colour Doppler in women with risk factors of VP.

This case of VP would have been missed under current practice, evidently significantly increasing perinatal risk. Early antenatal diagnosis enabled: re-triage from midwifery to a high risk obstetric pathway, careful procedural planning and provision of adequate psychological support. Multi-centre collaborative research in VP is required.

We propose routine screening for VP at morphology scan to avoid preventable adverse outcome through planning and timely delivery.

### CASE

34 year old G1P0 20 weeks (nil known VP risk factors) was referred for Maternal-Fetal Medicine (MFM) USS following a morphology scan suspicious of mild ventriculomegaly. Placenta fundal and central cord insertion noted. MFM USS at 21 weeks [fig1] revealed normal morphology, fetal vessels running off the edge of the placenta to within 2cm of the internal os was identified (MFM routinely perform colour Doppler scan for VP regardless of risk factors). Early diagnosis enabled serial USS and careful planning. Hospitalisation occurred at 31 weeks gestation to facilitate emergency care if required. Elective caesarean section was performed at 36 weeks after steroid loading.

**Technique:** Gradual myometrium incision to avoid membrane rupture or vessel laceration. VP vessels in the membranes were carefully localised and protected during amniotomy to minimise vessel rupture [fig2,3]. Neonatologist was present at time of delivery of 2910g male baby Apgars 9, 9, Hb 161.

**Findings:** Central insertion of umbilical cord, large thin placenta. Two intact vessels were evident in the anterior segment of the membranes at the margins of the amniotom window which was created to deliver the baby.

### REFERENCES


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**Fig 1**

**Fig 2**

**Fig 3**