Great Western Hospitals NHS
NHS Foundation Trust

Oxford Academic Health Science Network
Maternity

Vasa previa, are we doing enough?

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The Great Western Hospital
15th March 2017

Background

- Unprotected foetal vessels below the presenting part over the IO.

  Type 1: 2ry to velamentous insertion.

  Type 2: foetal vessels running between placental lobes.

- 1:2000 to 1:6000 (under reported)
- Mortality = 60%.
- Survival rate up to 97% if diagnosed antenatally.
- RF are Low lying placenta, twins and IVF.

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The Story (with parent's permission)

- 31 year old lady, G_3P_{1+1} previous CS for failure to progress.
- CLC for being carrier of haemo-chromatosis.
- Serial growth scans → at 32/40 the growth was consistent and AC at 16th centile with normal UA Doppler.
- 34/40 scan → AC at 30th centile with normal Doppler and good EDF
- Placenta posterior clear of OS and no history of APH.

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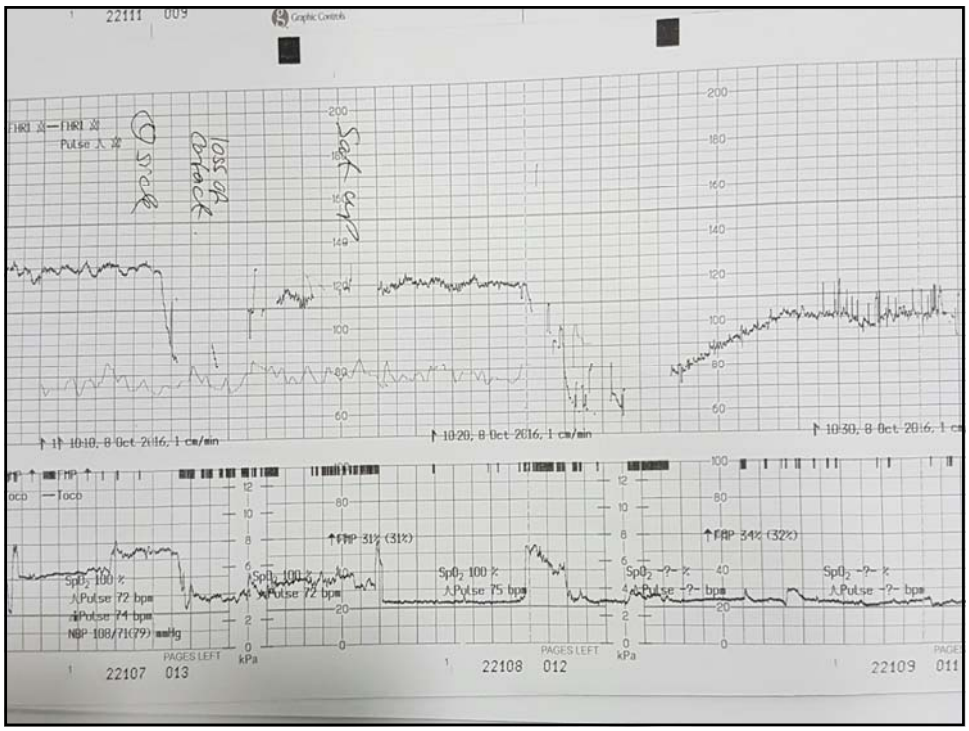
The Story

- At 38^{+2} weeks, presented to DS at 10:00 AM with PV bleeding of 2h duration.
- Bleeding was described as fresh red blood on wiping and no blood clots.
- No abdominal pain or tightening.
- BP= 108/71 mmHg HR= 74/m



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The Story

- At <u>10:30</u> the registrar on call R/V → Cat 1 CS.
- Baby boy (<u>weighed 2580gm</u>) delivered at <u>10:53</u> by the consultant on call.
- Marginal placental abruption and velamentous insertion of the cord were noticed.
- Diagnosis was confirmed by histopathology in Oxford.

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The Story

- Baby was born in a poor condition and was very pale.
- No respiratory effort and no HR.
- CPR commenced with on-going ventilation breaths.
- Intubated @ 3 min. with good air entry @ 7 min.
- UVC inserted at 10 min. and bolus of saline (30ml/kg) + 2 doses of adrenaline given.
- Detectable HR @ 13 min. transferred to SCBU.

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The Story

- Principle problems / diagnosis during stay:
  1. Anaemia from foetal blood loss.
  2. Hypovolemic shock
  3. HIE grade III.
- Transferred to Southmead NICU then developed multi-organ failure in day 3.
- Died peacefully in his parents' presence following elective extubation and discontinuation of cardiovascular support.

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Poor Outcome Inspite of:

- Rapid diagnosis and delivery in 23 minutes of decision.
- Involvement of both consultant obstetrician and paediatrician in the management of the case.
- Good communication with parent and keeping them involved in decision making all the time.

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Could this bad outcome have been prevented?

The ideal scenario is where vasa praevia is diagnosed prenatally and delivery planned prior to fetal blood loss.

1. Should we screen for vasa previa?
2. Routine or selective screening ?
3. What are the potential consequences of a false +ve or false -ve diagnosis?

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Shall we screen for vasa praevia?

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Shall we screen for vasa praevia?

For a condition or disease to be suitable for screening it must be:

1. Serious.
2. Better treated before being symptomatic.
3. Highly prevalent.

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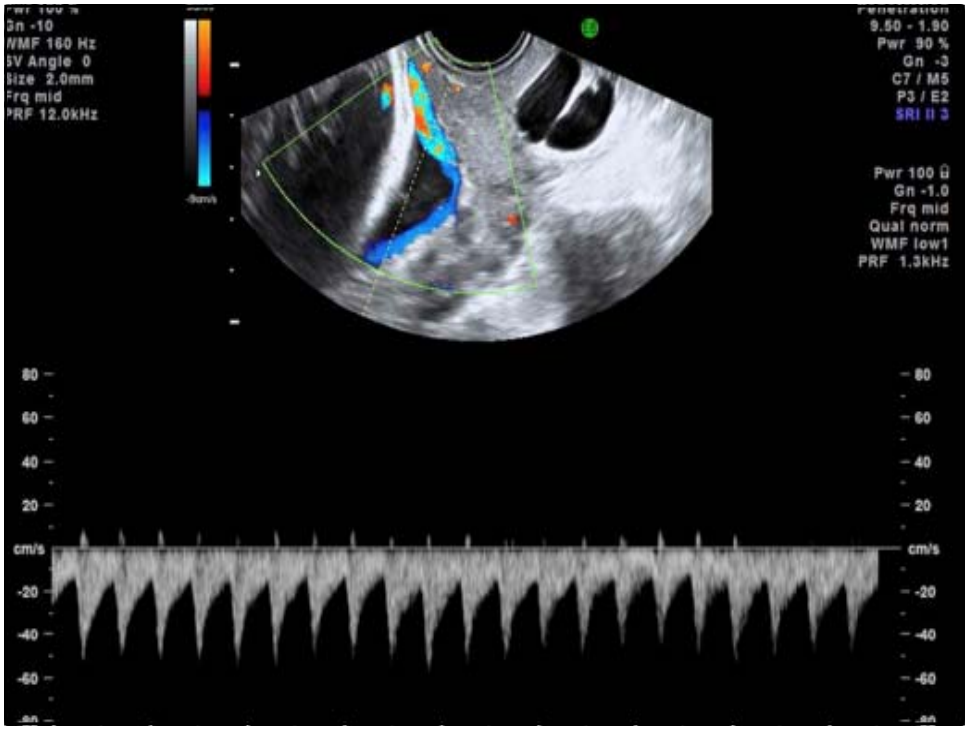
Shall we screen for vasa praevia?

Tests are suitable for screening if they are:

1. Cheap, painless and easy to administer.
2. Of high sensitivity and specificity.
3. Acceptable to women.
4. Cost effective.
5. Reliable

Colour Doppler USS at 18-20/40



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RCOG recommendation

Placenta Praevia, Placenta Praevia Accreta and Vasa Praevia: Diagnosis and Management

Green-top Guideline No. 27
January 2011

9.3 Can vasa praevia be diagnosed using ultrasound?

Vasa praevia can be accurately diagnosed with colour Doppler ultrasound, often utilising the trans-vaginal route. C

9.4 Should we screen for vasa praevia?

At present, vasa praevia should not be screened for routinely at the time of the mid-trimester anomaly scan, as it does not fulfil the criteria for a screening programme. D

However, some centres may feel that, based on their case mix, screening those with risk factors is justifiable as recommended by some groups.[31,36,159,166] This should be carefully audited and reported to expand the evidence base regarding the sensitivity and specificity of screening, as well as maternal and fetal/neonatal outcomes. For those who do wish to screen for vasa praevia, Jeanty's group have suggested a screening algorithm.[31]

Evidence level 3

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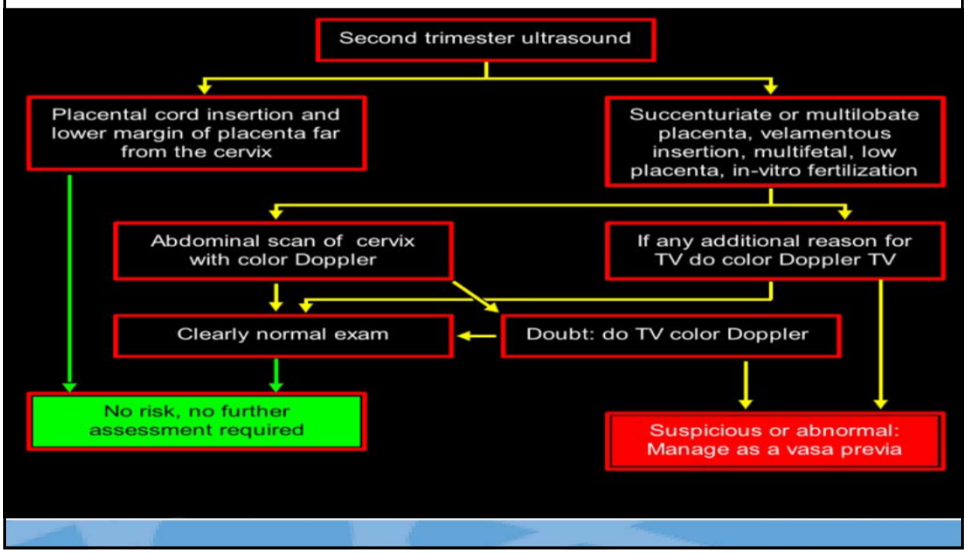
Jeanty's group screening algorithm *J Prenat Med* 2007;1:2–13.



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RCOG recommendation

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In cases of vasa praevia identified in the second trimester, imaging should be repeated in the third trimester to confirm persistence.	✓
In cases of confirmed vasa praevia in the third trimester, antenatal admission from 28 to 32 weeks of gestation to a unit with appropriate neonatal facilities will facilitate quicker intervention in the event of bleeding or labour.	D
In the presence of confirmed vasa praevia, elective caesarean section should be carried out prior to the onset of labour.	C
Laser ablation in utero may have a role in the treatment of vasa praevia.	D

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Review of literature

A retrospective multi-centre study published in AJOG in August 2016, looked at 68 cases of VP recommended:

- ✓ Selective risk based screening (86% of cases had known RF).
- ✓ Early hospitalization at 30-34/40.
- ✓ Steroids at 30-32/40.
- ✓ Elective delivery at 33-34/40.

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Review of literature

The Society of Obstetricians and Gynecologists of Canada has published guidelines in 2009 and the recommendations are:

- ✓ If the placenta is found to be low lying at the routine 2nd trimester scan further evaluation for placental cord insertion should be performed.
- ✓ TVS may be considered for all women at high risk for vasa previa, including those with low or velamentous insertion of the cord, bilobate or succenturiate placenta, or for those having vaginal bleeding, in order to evaluate the internal cervical os

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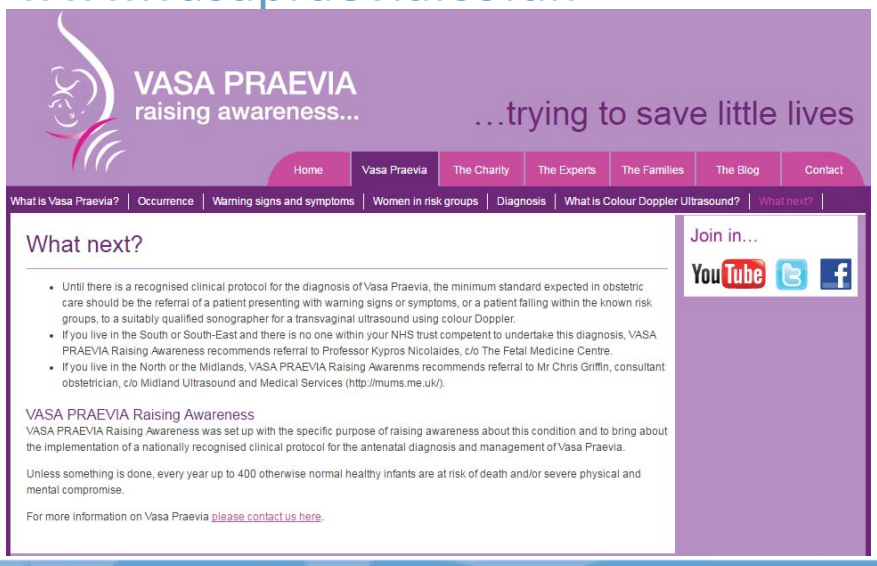
www.vasapraevia.co.uk



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Learnings and Reflections

- Audit.
- Liaise with other units in the region to share experience.
- Meet the sonographer and raise there awareness.
- Re-enforce the a local protocol for selective screening and plan of management .

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Summary

- Awareness of the risk factors, diagnosis and management of vasa praevia needs to be raised among health professionals caring for pregnant women and their babies.
- An experienced perinatal team needs to be involved, whether the diagnosis is made prenatally or not.
- Screening for vasa praevia should be carried out at least for the high risk group.
- Sonographers should be aware of RF for vasa previa and should be able to counsel women about screening.


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Thank you for your attention
Any questions?