Worcestershire Acute Hospitals NHS Trust

GUIDELINE FOR PRENATAL DIAGNOSIS & MANAGEMENT OF VASA PRAEVIA

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Key Documents Owner/Lead:	Dr Hillman	Consultant Obstetrician
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This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

INTRODUCTION

Vasa praevia is defined as fetal vessels running through the membranes over the cervix and under the fetal presenting part, unprotected by placenta or umbilical cord.

It is a rare condition with the reported incidence of approximately 1 in 2000-6000 pregnancies. If undiagnosed vasa praevia is associated with perinatal mortality of ~60%.

Perinatal mortality due to vasa praevia can be minimised by prenatal diagnosis of the condition and caesarean delivery by 35-37 weeks before rupture of membranes occurs.

THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUPS:

Obstetric Medical Staff / Registered Midwives / Ultrasonographers.

Key amendments to this guideline

Date	Amendment	Approved by: (name of committee or accountable director)
24 June 2010	Extended for a further period without amendment.	Miss R Imtiaz
20 July 2012	Amendments to definition, presentation, diagnosis and management included.	Mr S Agwu/ Dr K Brown
28 March 2015	Document extended to 1st June 2016 as requested	L Thirumalaikumar
September 2016	Document extended for 12 months as per TMC paper approved on 22nd July 2015	TMC
September 2017	Document extended for 3 months as per TMC paper approved on 22nd July 2015	TMC
November 2017	Document extended whilst under review	TLG
December 2017	Sentence added in at the request of the Coroner	
March 2018	Document extended for 3 months as approved by TLG	TLG
June 2018	Document extended for 3 months as approved by TLG	TLG
27/02/2019	Guideline reviewed and extended without amendments	A Morrison C Stabler S Ghosh

GUIDELINE FOR PRENATAL DIAGNOSIS OF VASA PRAEVIA

INTRODUCTION

Vasa praevia is defined as fetal vessels running through the membranes over the cervix and under the fetal presenting part, unprotected by placenta or umbilical cord.

- Type 1: Velomentous cord insertion in a single or bilobed placenta.
- Type 2: Fetal vessels running between the lobes of a placenta.

Following spontaneous or artificial rupture of membranes, the fetal vessels are unprotected and therefore at risk of haemorrhage.

Vasa praevia is rare with an incidence of between 1 in 2000-6000 pregnancies. Fetal blood volume is 80-100ml/kg, therefore a small loss can have major consequences of exsanguinations with ~60% perinatal mortality rate but no major maternal risks. Rapid delivery is necessary, with aggressive resuscitation and blood transfusion.

Perinatal mortality due to vasa praevia can be minimised by prenatal diagnosis of the condition and caesarean section by 35-37 weeks, prior to rupture of membranes. This improves the survival rates to 97%.

GUIDELINE

Risk Factors for Vasa Praevia

- Bilobed and succenturiate placentas (1.7% of placentas)
- Low-lying placentas at mid-trimester scan
- Multiple pregnancies
- Pregnancies resulting from IVF (incidence: 1 in 300)
- Marginal insertion of the cord
- Velamentous insertion of the cord (1% of placentas)
- Palpable vessel or a suspected amniotic band is felt on vaginal exam

Presentation

- Fresh vaginal bleeding on spontaneous or artificial rupture of membranes.
- Fetal heart rate abnormalities: decelerations, bradycardia, sinusoidal trace or fetal demise (with or without bleeding). In the absence of bleeding, symptoms are due to compression of the fetal vessels by the presenting part.
- Rarely: bleeding without ruptured membranes

Prenatal Ultrasonographic diagnosis of Vasa Praevia

The RCOG and NICE do not recommend routine screening for vasa praevia at the mid-trimester scan as it does not fulfil the criteria for a screening program and there is no agreed management pathway.

Ultrasonographic diagnosis of vasa praevia was first reported in 1987 by Ginopoulos et al. Placental cord insertion should be evaluated routinely in high risk pregnant women when ultrasound scan is performed. In 95% of cases it takes 30 – 60 seconds to identify the cord insertion.

Ultrasound appearance of vasa praevia is of linear echolucent structures overlying the cervix. Flow can be demonstrated through these vessels with colour Doppler, and pulse Doppler will demonstrate the waveform. Doppler increases the diagnostic accuracy, with a specificity of up to 91%.

Vasa praevia is rarely seen in the abscence of velamentous cord insertion or a succenturiate or bilobed placenta. Therefore if present a colour Doppler USS should be done to assess the region at the cervical os to look for any fetal vessels, and transvaginal ultrasound with colour Doppler if the cord insertion cannot be identified.

Vasa previa can be detected during pregnancy as early as the 16th week with the use of transvaginal ultrasonography.

It is important to differentiate between vasa praevia and cord presentation. In the latter the vessel will move when the patient changes position, but not in case of vasa praevia.

***Not all cases of vasa praevia are recognised by sonography.

Vasa praevia may be diagnosed clinically in the intrapartum period on feeling fetal vessels in the membranes on vaginal examination. It can then be confirmed with direct visualisation using an amnioscope.

Various tests including Kleihauer-Bekte and haemoglobin electrophoresis can differentiate between fetal and maternal blood, but these are laboratory based and therefore less useful in acute clinical situations. Tests using 0.14 M Sodium hydroxide solution are faster but require further validation.

Factors that may prevent visualisation of umbilical cord entry into the placenta or visualisation of fetal vessels over cervix

- Maternal Obesity
- Anterior abdominal wall scarring
- Fetal position
- Incompletely filled maternal bladder
- Vessels that course over the cervix in a transverse rather than antero-posterior direction may be missed by transabdominal colour Doppler ultrasound

Management of Vasa Praevia

- Vasa praevia with an antepartum or intrapartum haemorrhage should be delivered by a category 1 emergency caesarean section, after confirming fetal wellbeing.

- Where vasa praevia is suspected the diagnosis should be confirmed with transvaginal colour Doppler USS, provided there is no fetal compromise.

- If vasa praevia is confirmed at term, an elective caesarean between 35 and 37 weeks should be performed prior to labour, balancing the risk of neonatal lung injury and fetal haemorrhage.
- Vasa praevia diagnosed in the second trimester should be confirmed in the third trimester as it resolves in 15% of cases.

- Persistent vasa praevia in the third trimester may require antenatal admission from 28 to 32 weeks gestation. This enables quicker intervention and neonatal care in the event of bleeding. Outpatient management may be possible if there is no evidence of cervical shortening on TVUS, bleeding or preterm uterine activity.

- Consider antenatal corticosteroids for fetal lung maturity due to the high risk of preterm labour.

- Careful debriefing of the patient following the delivery and a clinical incident form must be completed.

Differential Diagnosis of Vasa Praevia

- Motion artifact
- Chorioamniotic separation
- Marginal placental sinus
- Amniotic band
- Cord presentation

MONITORING TOOL

Annual audit by West Midlands Perinatal Institute (WMPI)

This is carried out by recordings of images stored in PACS and/or hard copies..

Results are fed back (anonymously) to individual sonographers.

REFERENCES

Royal College of Obstetricians and Gynaecologists: Green-top Guideline Number 27. January 2011.

Oyelese et al. Vasa Previa: The impact of prenatal diagnosis on outcome. Obstet Gynecol 2004;103:937-42

Oyelese et al. Placenta previa, placenta Accreta, Vasa previa. Obstet Gynecol 2006;107:927-41

Lee W et al. Vasa Previa: Prental Diagnosis, natural evolution and clinical outcome. Obstet Gynecol 2000;95:572-6.

CONTRIBUTION LIST

Key individuals involved in developing the document

Name	Designation
Mr S Agwu	Consultant Obstetrician/Gynaecologist

Circulated to the following individuals for comments

Name	Designation
Mrs A Blackwell	Consultant Obstetrician/Gynaecologist
R Duckett	Consultant Obstetrician/Gynaecologist
Mrs S Ghosh	Consultant Obstetrician/Gynaecologist
Mrs J Shahid	Consultant Obstetrician/Gynaecologist
Mr A Thomson	Consultant Obstetrician/Gynaecologist
Mr J Uhiara	Consultant Obstetrician/Gynaecologist
Dr U Udeshi	Consultant Radiologist
Louise Turbut	Outpatient Matron
Melanie Hurdman	In patient Matron
Margaret Stewart	Maternity Matron, specialist Midwives
Sharon Sarkar	Antenatal Clinic Manager WRH site
Lisa Gardner	Antenatal Clinic Manager Redditch site
Karen Chapman	Hub/Antenatal Clinic Manager Kidderminster
D Hill	Chief Radiographer
D Adams	Sonographer
M Evans	Sonographer
J Hemming	Sonographer
J Ledger	Sonographer
J Seymour	Sonographer
M Stewart	Matron/Supervisor of Midwives
Members of Guideline Group (For consultation with their peers)	

Circulated to the chair of the following committees/groups for comments/approval

Name	Directorate / Department
Alison Smith	Medicines Safety Committee