Guideline for the Management of (Suspected) Rupture of the Uterus

DEFINITION

Uterine rupture "separation of the entire thickness of the uterine wall, with extrusion of fetal parts and intra-amniotic contents into the peritoneal cavity".

Uterine dehiscence "a disruption of the uterine muscle with intact serosa. Usually asymptomatic".

The difference in the definition is often academic and suspected cases should be treated as "rupture" unless proven otherwise.

RISK FACTORS

During pregnancy	During labour	Post delivery
• Previous classical caesarean section • Previous hysterotomy (very rare) • Previous myomectomy • Placenta accreta • Motor vehicle accidents • Müllerian anomalies of uterus • Hysteroscopic metroplasty • Difficult curettage for miscarriage *Rare causes described in primigravida women* • Ehler-Danlos syndrome • Chronic steroid use • Use of cocaine	• Previous caesarean section • Previous myomectomy • Grand multiparity • Malpresentation: unrecognised brow, face and shoulder presentation • Unrecognised cephalopelvic disproportion • Multiple Pregnancy • Obstructed labour • Prostaglandin and oxytocin augmentation in women with high parity and previous caesarean section • Use of high doses of misoprostol in parous women • Instrumental delivery (injudicious use of Keillands forceps) • Assisted breech deliveries *Rare causes* • Tumours obstructing the birth canal • Pelvic deformity	• Precipitate labour • Manual removal of placenta • Uterine manipulation (intrauterine balloon) • Placenta accreta

DIAGNOSIS

Signs and symptoms are varied

- Can be asymptomatic; occurs when the fetal sac herniates through an avascular scar and the uterus retracts
- Prior to rupture:
    - Mother: restlessness, **constant** pain in the lower part of the uterus; tachycardia
    - CTG abnormalities (present in 55-87% of uterine ruptures): sudden and persistent bradycardia most common
    - Fetal parts difficult to palpate
    - Bandl's ring is described as a late warning sign of impending rupture. Bandl's ring usually appears before uterine rupture when it occurs secondary to obstructed labour
- Following rupture:
    - Woman may describe a sudden feeling of something giving way with complete cessation of uterine activity
    - Sudden sharp shooting abdominal pain followed by cessation of uterine contractions or breakthrough pain despite previously effective epidural block
    - On examination
        - Loss of uterine contour
        - Two swellings i.e. fetus lying in the abdominal cavity, and contracted and retracted uterus
        - Fetal parts easily palpable
        - Haematuria
    - Vaginal bleeding is rare
    - Maternal shock and collapse

****continuous pain + abnormal CTG – think uterine rupture****

MANAGEMENT

- Call for help including senior / consultant involvement. **2222** for Emergency call
- Immediate resuscitation (ABC). IV access x 2, X-Match x 2 units in the first instance
- Plan for emergency caesarean section / exploratory laparotomy
    - Repair of the uterus is possible in the majority of women
    - Haemorrhage from extension of the rupture into the broad ligament or extensive damage to the uterus will likely require hysterectomy – consultant should be involved if not already
- If rupture is discovered at the time of manual exploration following delivery of the placenta and the woman **is** bleeding, proceed to immediate laparotomy with consultant involvement. See below
- If **not** bleeding, discuss with on call consultant as laparotomy may not be required.

LAPAROTOMY

- Risk of MOH and fetal demise
- **Class of CS/laparotomy should be clearly stated**
- Consider midline laparotomy (in case of shock, foetal parts easily felt (i.e. suspected complete rupture)
- If anatomy not clear, especially if "extension of the rupture into the broad ligament /broad ligament haematoma or extensive damage to the uterus" please do not apply blind sutures. Alternatively, please apply compression of the bleeding until senior help arrives

POST NATAL MANAGEMENT

- A plan of care for the immediate post-natal period should be documented by the operating obstetrician.
- Ensure datix is complete
- Debriefing: An opportunity should be given for the woman and family to see a senior obstetrician prior to discharge home.
- If uterus is still in situ advice regarding future mode of delivery should be given and documented. The woman and her partner should be given an opportunity to have a further consultation after discharge from hospital.

Women with a previous uterine scar require

- Antenatal management including plans for delivery and induction involving a documented discussion with an experienced obstetrician.
- Risk of uterine rupture with VBAC is approximately 1/200
- Continuous intrapartum fetal and maternal surveillance in a setting where the baby can be delivered within 30 minutes
- Involvement of a senior obstetrician in intrapartum management
- If requiring induction
    - Avoid use of prostaglandins
    - Foley's catheter/or Cooks balloon for mechanical cervical dilatation prior to ARM if required (does not increase risk of scar rupture)
    - Syntocinon at consultant discretion (usually "half dose")
    - Risk of uterine rupture is increased two - three fold in induced and/or augmented labour

Reference:
Madhavi M, Wuntakal R, Erskine K. Uterine rupture: a revisit. *TOG 2010; 12: 223-230*

RCOG Green Top Guideline Number 45. Birth after previous caesarean birth

Originator:	**Dr S Sircar**
Reviewed by:	**Catriona Kerr-Wilson/C Willocks 2020**
	Finalised by Dr S Maharaj 2021
Date:	**February –March 2021**
Ratified by:	**The Maternity Clinical Effectiveness Group**
Review Date:	**April 2024**