Worcestershire Acute Hospitals NHS Trust

Inverted uterus

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Key Amendments

Date	Amendments	Approved by
4th June 2024	Document extended for another 12 months whilst under review	Maternity Governance
24th October 2025	Document reviewed and approved with no changes	Maternity Governance Meeting

Introduction

This guideline relates to all patients presenting with suspected or confirmed inverted uterus.

The incidence of uterine inversion is approximately 1 in 2000 deliveries.

Uterine inversion is associated with haemorrhage in over 90% of cases and shock is its most common complication (40%) The appearance of shock out of proportion to the amount of blood loss may be explained by increased vagal tone in response to the inversion. The uterus most commonly presents as a pelvic mass, sometimes protruding from the vagina, but in cases where it does not protrude from the vagina, it may go undetected resulting in a subacute or chronic inversion.

Recognition

Early recognition of uterine inversion is vital to enable prompt treatment. Symptoms and signs include the following:

- Severe lower abdominal pain in the 3rd stage
- Haemorrhage present in 94% of cases
- Shock which is out of proportion to the blood loss due to increased vagal tone
- Placenta may or may not be in situ
- Uterine fundus not palpable per abdomen (in milder degrees there may be a dimple in the fundal area)
- Pelvic examination showing a mass in the vagina (in milder degrees) or outside the introitus.

Prevention

Mismanagement of the third stage should be avoided and cord traction should not be performed until the signs of placental separation are apparent. The uterus should always be carefully guarded whilst performing controlled cord traction, to reduce the risk of inversion.

Management

1. Call for help (consultant obstetrician/anaesthetist/midwives).

2. Empty bladder.

3. Arrange immediate manual replacement of uterus in theatre under adequate analgesia and uterine relaxation, concurrently to anti-shock measures as Resuscitation may not be successful until the inversion is corrected. NB: Do NOT remove placenta.

4. Insert two wide bore cannulae.

5. Collect blood for FBC, coagulation studies and group and cross match (4-6 units).

6. Start fluid replacement immediately (colloids and crystalloids, and/or blood). May require atropine IV if severe hypotension.

7. Continuously monitor BP/P/RR/urine output O_2 Sat.

8. Reposition the uterus. See techniques below.

9. Remove placenta when uterus fully replaced.

10. Give prophylactic IV antibiotic : one dose of i.v. **co-amoxiclav 1.2g** (reconstituted with 20ml water for injection and given as slow bolus over 3-4 mins).

    If patient is **penicillin allergic** then one dose of i.v. **gentamicin 120mg** (slow bolus over 5 mins) plus one dose i.v. **clindamycin 600mg** (infused in 100ml sodium chloride 0.9% over at least 20 mins).

    If gentamicin use is contraindicated because of renal problems then one dose i.v. **cefuroxime 1.5g** plus one dose i.v. **metronidazole 500mg in 100ml** (infused together over 20mins) should be given in place of gentamicin and clindamycin If patient known to be severely penicillin allergic i.e. anaphylaxis, discuss with consultant microbiologist.

11. Start oxytocin infusion (40iu/40ml normal saline) after uterine replacement for 4 hours and the woman should remain on delivery suite

12. Check FBC at the completion of the procedure.

Replace the uterus using one of the following techniques:

1. Hydrostatic repositioning (O'Sullivan's Technique)
Uterine rupture must be excluded first.

Infuse warmed sodium chloride 0.9% 3 litres held 1-2 metres above the patient via the intravenous giving set attached to a silastic ventouse cup which is inserted into middle part of the vagina and held in place by hand while the other hand palpates for the uterine fundus confirming replacement. (The equipment for this procedure is kept in theatre in a labelled box.)

2. Manual replacement (The Johnson Manoeuvre)
While replacing the uterus manually, try to replace uterus nearest to cervix first and fundus last.

Uterine Relaxants

Drugs are used to relax the cervical ring to facilitate replacement.

If regional anaesthetic is used the following agents can be used to achieve uterine relaxation.

Terbutaline	250 micrograms s/c
GTN spray	2 puffs (400mcgm/puff)

If general anaesthesia is used, volatile agents may be used to facilitate uterine relaxation in addition to the above agents.

Caution: Use of these agents may exacerbate the existing hypotension which will require IV fluid resuscitation and vasopressors. There also a risk of uterine atony following use of uterine relaxant which will require using oxytocics/ Carboprost / Misoprostol following the uterine replacement. (See PPH guideline). Once the uterus has been replaced, maintain bimanual compression until good uterine tone has been achieved and bleeding has stopped.

3. Surgery (Laparotomy and Haultain's procedure or Huntingdon's operation)
Surgery is only used if all other attempts fail.

In the Huntington's procedure,Allis forceps are placed within the dimple of the inverted uterus on the round ligaments and gentle upward traction is exerted in the clamps with a further placement of forceps on the advancing fundus.

Haultain's technique involves incising the cervical ring posteriorly with a longitudinal incision and facilitates uterine placement by Huntingdon's method.