Uterine Inversion

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Uterine Inversion

Prolapse of the fundus down to or through the cervix so that the uterus is turned ‘inside out’.
• POTENTIALLY LIFE THREATENING COMPLICATION OF CHILDBIRTH.

• ALL MOST ALL CASES OCCUR AFTER DELIVERY/ CAESAREAN SECTION.

• UNCOMMON – 1:2000
Aetiology

Commonest –
mismanagement of 3rd stage of labour (premature traction on umbilical cord and fundal pressure before separation of placenta)

Others
• uterine atony,
• fundal implantation of a morbidly adherent placenta, manual removal of the placenta,
• precipitate labour, a short umbilical cord, placenta
• praevia and connective tissue disorders (Marfan syndrome, Ehlers-Danlos syndrome)
50% of cases,

- No risk factors are identified
- No mismanagement of the third stage.
Pathophysiology

• a portion of uterine wall **prolapses** through the dilated cervix or indents forward
• **relaxation** of part of the uterine wall
• simultaneous **downward traction** on the fundus leading to inversion of the uterus.
Classification

Degree Description
• First (incomplete) The inverted fundus extends to, but not beyond, the cervical ring
• Second (incomplete) The inverted fundus extends through the cervical ring but remains within the vagina
• Third (complete) The inverted fundus extends down to the introitus
1\textsuperscript{st} Degree
- Inverted fundus up to cervix

2\textsuperscript{nd} Degree
- Body of uterus protrudes through cervix into vagina

3\textsuperscript{rd} Degree
- Prolapse of inverted uterus outside vulva
Terminology

INCOMPLETE describes an inverted fundus that lies within the uterine cavity without extending beyond the external os.

COMPLETE describes an inverted fundus that extends beyond the external os.
Differential Diagnosis:

- Uterine rupture
- Prolapsed pedunculated uterine fibroid or polyp
- Delivery of succenturiate lobe of placenta
- POC/clot distending cervix

... Always consider the causes for PPH:

- Tone
- Tissue
- Trauma
- thrombin
Clinical presentation

- (94%) present with haemorrhage, with or without shock.
- Neurogenic with signs of bradycardia and hypotension but, with time, postpartum haemorrhage will ensue

Signs
- Lump in the vagina
- Abdominal tenderness
- Absence of uterine fundus on abdominal palpation
- Polypoidal red mass in the vagina with placenta attached

Symptoms
- Severe abdominal pain
- Sudden cardiovascular collapse
- Postpartum haemorrhage
Shock:

• More commonly Neurogenic due to traction on the peritoneum and pressure on the tubes, ovaries & bowel.
• Parasympathetic effect of traction on the ligaments supporting the uterus and may be associated with bradycardia
• May be Hypovolaemic due to postpartum haemorrhage.
Management:

• Prompt recognition & treatment
  • Earlier Dx...Earlier reduction...higher success rate
  • *Always suspect if profound shock without obvious explanation*
• Call for help...*coded emergency*
• Treat shock...ABC / IV access / fluid resus / XM
• DO NOT deliver placenta until uterus is replaced & contracted.
• Replace uterus – may require tocolytics +/- anaesthesia
• PPH protocol to address associated bleeding.
Call for help

Immediate manual replacement and simultaneous resuscitation

Successful

Remove placenta, massage, oxytocic agents, antibiotics

Unsuccessful

Woman not in shock

Give uterine relaxant: intravenous/subcutaneous terbutaline 0.25 mg

Manual or hydrostatic replacement

Unsuccessful

Unsuccessful

Woman in shock

General anaesthesia

If all these measures fail, proceed to laparotomy (<3%)
Manual reduction of Uterus:

- **Form a fist** or grasp the uterus and push it through the cervix of a lax uterus towards the umbilicus to its normal position.
- Use the other hand to support the uterus. *(Johnson manoeuvres)*
Role of tocolysis

- Controversial

- MgSO4 (4–6 g intravenously [IV] over 20 minutes),
- Nitroglycerin (100 micrograms IV slowly, uterine relaxation in 90 seconds when given sublingually)
- Terbutaline (0.25 mg IV slowly)

- Recommended: terbutaline as first-line
  - rapid onset of action,
  - Short half-life,
  - ease of use
  - availability on the labour ward
  - familiarity to the obstetrician.
O’Sullivan hydrostatic Technique:

- Trendelenburg position.
- Place the nozzle of the tube in the posterior fornix.
- An assistant start the fluid with full pressure (at least 2m high)
- Fluid escape is prevented by blocking the introitus by using the labia and operator’s hand.
- The fluid distend the vagina, relieves the mild cervical constriction and result in correction or replacement of the inverted uterus.
Ogueh & Ayida Technique:

- Modified O’Sullivan utilizing a vacuum cup to achieve hydrostatic seal in vagina
- Place the nozzle of the tube in the posterior fornix.
After reduction...

- Discontinue uterine relaxant/general anaesthesia.
- Start infusion of oxytocin or ergot alkaloids
- Continue fluid and blood replacement
- Bimanual uterine compression and massage are maintained until the uterus is well contracted and hemorrhage is ceased
After Reduction...

- Remove placenta if retained following replacement of the inverted uterus.
- Careful manual exploration to rule out the possibility of genital tract trauma.
- Antibiotics.
- Adequate analgesics.
- Oxytocics/ergot are continued for at least 24 hrs.
- Monitor closely after replacement to avoid re-inversion
Surgery...

- Need for abdominal surgery is rare (<3%)

- Range of operative techniques:
  - Huntington procedure
  - Haultain procedure
  - Modified internal vacuum
  - Rarely hysterectomy...
Haultain procedure:
Complications…

• Postpartum hemorrhage due to uterine atony.
• Hypovolaemic shock and all its consequence.
• Vasovagal shock (due to severe pain).
• Endometritis (sepsis).
• Infection of adnexa.
• Necrosis of adnexa (ovaries) due to compression of ovaries as they drawn inside.
• Damage to intestine / septic paralytic ileus.
Prevention is better than cure !...

• Many cases of acute uterine inversion result from mismanagement of the third stage of labour in women who are already at risk.
• Wait for signs of placental separation before traction
• AVOID...
  • Excessive traction on the umbilical cord
  • Excessive fundal pressure
  • Excessive intra-abdominal pressure
  • Excessively vigorous manual removal of placenta.

• PPH training for all staff is essential...’practice makes perfect’