
Postpartum Haemorrhage and Third Stage Complications

POSTPARTUM HAEMORRHAGE

Definition. . Blood loss of more than 500 ml or more from the genital tract after delivery.

PPH is the leading cause of maternal death.

(a woman with a normal haemoglobin level will tolerate blood loss that would be fatal for an anaemic woman)

(Even healthy, non-anaemic women can have catastrophic blood loss)

Primary postpartum haemorrhage (immediate PPH) bleeding within first 24 hours after delivery.

Estimation is *difficult*.

Signs of haemorrhagic shock irrespective of amount of blood loss are important.

Secondary haemorrhage (delayed PPH) . . .excessive vaginal bleeding from day 1 to six weeks after delivery.

Causes of Primary PPH

1. Uterine atony

full bladder,
grandmultipara,
prolonged labour,
prolonged anaesthesia (Halothane)
overdistension of uterus
multiple pregnancy
polyhydramnios
myoma uterus
uterine malformations

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- 2. Retained placenta**
 - 3. Uterine rupture and genital tract trauma
(spontaneous or interference)**
 - 4. Uterine inversion.**
 - 5. Amniotic fluid embolism.**
 - 6. Coagulopathy.**
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Management of PPH

1. Shout for help
 2. Evaluate the general condition of woman
 3. Treat shock immediately
 4. Massage the uterus
 5. Oxytocics
 6. Catheterize the bladder
 7. Examine cervix, vagina and perineum
 8. Assess clotting status
 9. If bleeding continues, bimanual compression of the uterus
 10. If bleeding continues,
 - laparotomy. . uterine artery ligation
 - utero-ovarian ligation
 - bilateral internal iliac artery ligation
 - Hysterectomy
-

Estimation of blood loss is notoriously low. . . often half the actual loss.

1. blood is mixed with amniotic fluid and sometimes with urine.
2. blood is dispersed on sponges, towels and linens, in buckets and on the floor.

Bleeding may occur at a slow rate over several hours; the condition may not be recognized until the woman suddenly enters shocks.

‘Continuous slow bleeding or sudden bleeding is an emergency’ . . . intervene early and aggressively.

Prevention

Active management of the third stage should be practised on all women in labour ,because it reduces the incidence of PPH due to uterine atony.

Shout for help. . . . urgently mobilize all available personnel.(senior staff from obstetrics, midwifery, anaesthetics and haematology)

Evaluation. Evaluate the general condition of the woman, including vital signs (pulse, blood pressure, respiration and temperature).

If shock is suspected. . . immediately begin treatment even if signs of shock are not present. Her status may worsen rapidly.

If shock develops. . . it is important to treat immediately.

Massage the uterus. . to expel blood and blood clots. Blood clots trapped in the uterus will inhibit effective uterine contractions

Give oxytocin. . 10 units IM or ergometrine 0.5mg IV.

Syntocinon 20-40 units in normal saline 500 mls at 40 dpm.

Start an IV infusion with wide bore needle. . and infuse IV fluids.

Blood grouping and matching and save blood. Anticipate the need for blood early, and transfuse as necessary.

Catheterize the bladder.

Check to see if the placenta & membranes for completeness and signs of retained fragments. . .remove.

Examine the cervix, vagina and perineum for tears.. . repair.

Assess clotting status. . . 2 ml of venous blood in a small dry clean plain glass test tube.

*Hold the tube in closed fist to keep it warm (37`C). *After 4 mins, tip the tube slowly to see if a clot is forming & tip it again every minute till the blood clots & the tube can be turned upside down.

Failure of a clot to form after 7 mins. . . or a soft clot that breaks down easily suggests. . . . coagulopathy.

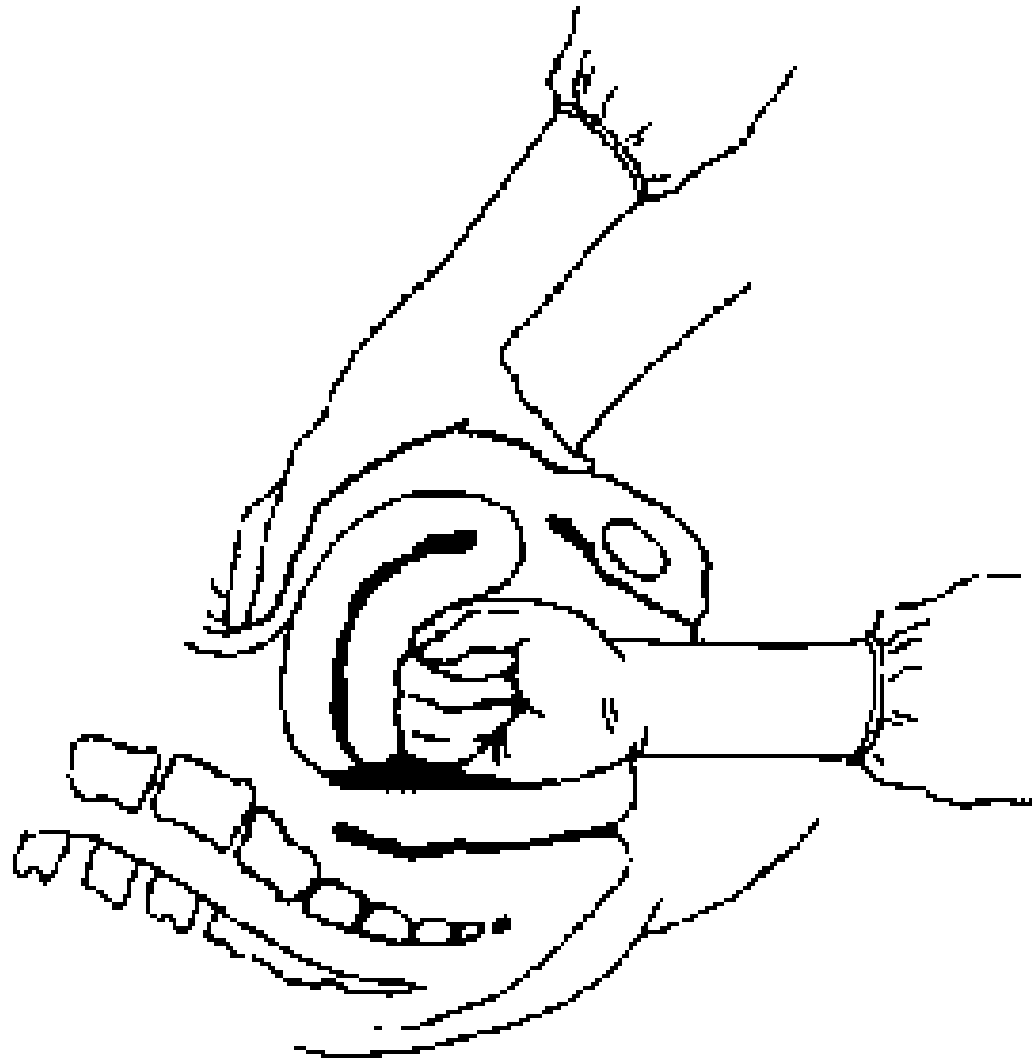
If bleeding continues inspite of above management. . Bimanual compression of the uterus

*Keep patient in lithotomy position

- Wash down with antiseptic solution.
 - Wear sterile gloves and insert a hand into the vagina & remove any blood clots from the lower part of the uterus or cervix.
 - **Form a fist** and **place the fist into the anterior fornix** & applying a pressure against the anterior wall of the uterus.
 - With the other hand, **press deeply** into the abdomen **behind the uterus**, applying pressure against the posterior wall of the uterus.
 - **Maintain compression until bleeding is controlled** and the uterus contracts.
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FIGURE S-4

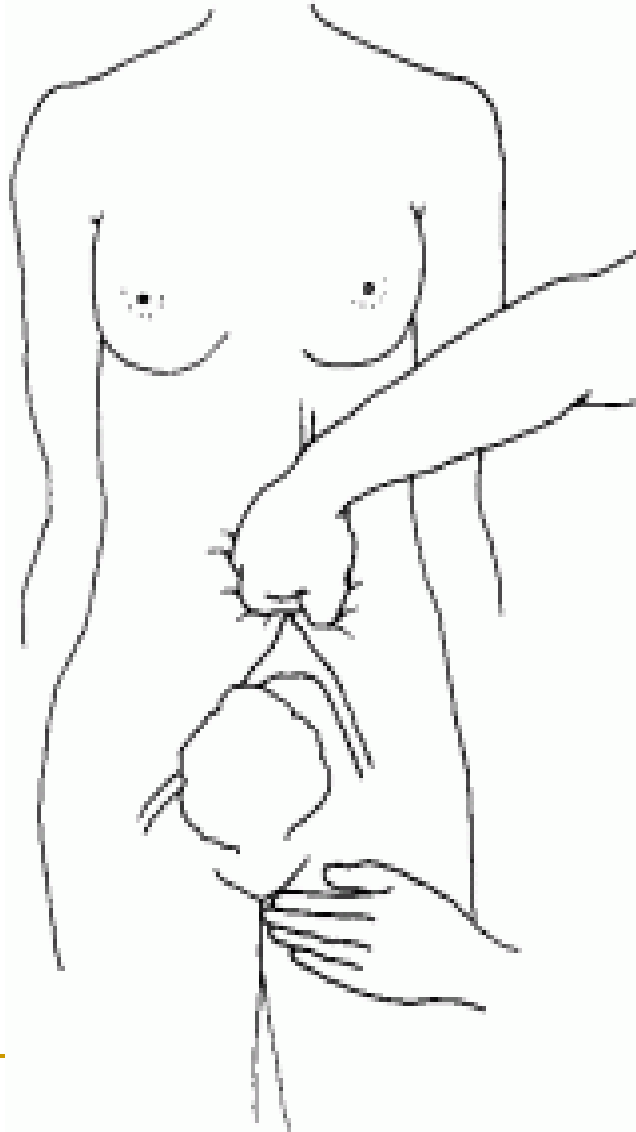
Bimanual compression of the uterus



Alternatively, compress the aorta.

- *Apply downward pressure with a closed fist over the abdominal aorta directly through the abdominal wall.
 - *Compress just above the umbilicus and slightly to the left.
 - *With the other hand, palpate the femoral pulse to check the adequacy of compression.
 - *Maintain compression until bleeding is controlled.
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Compression of abdominal aorta and palpation of femoral pulse



If bleeding continues inspite of compression,

do **laparotomy** and

uterine artery ligation.

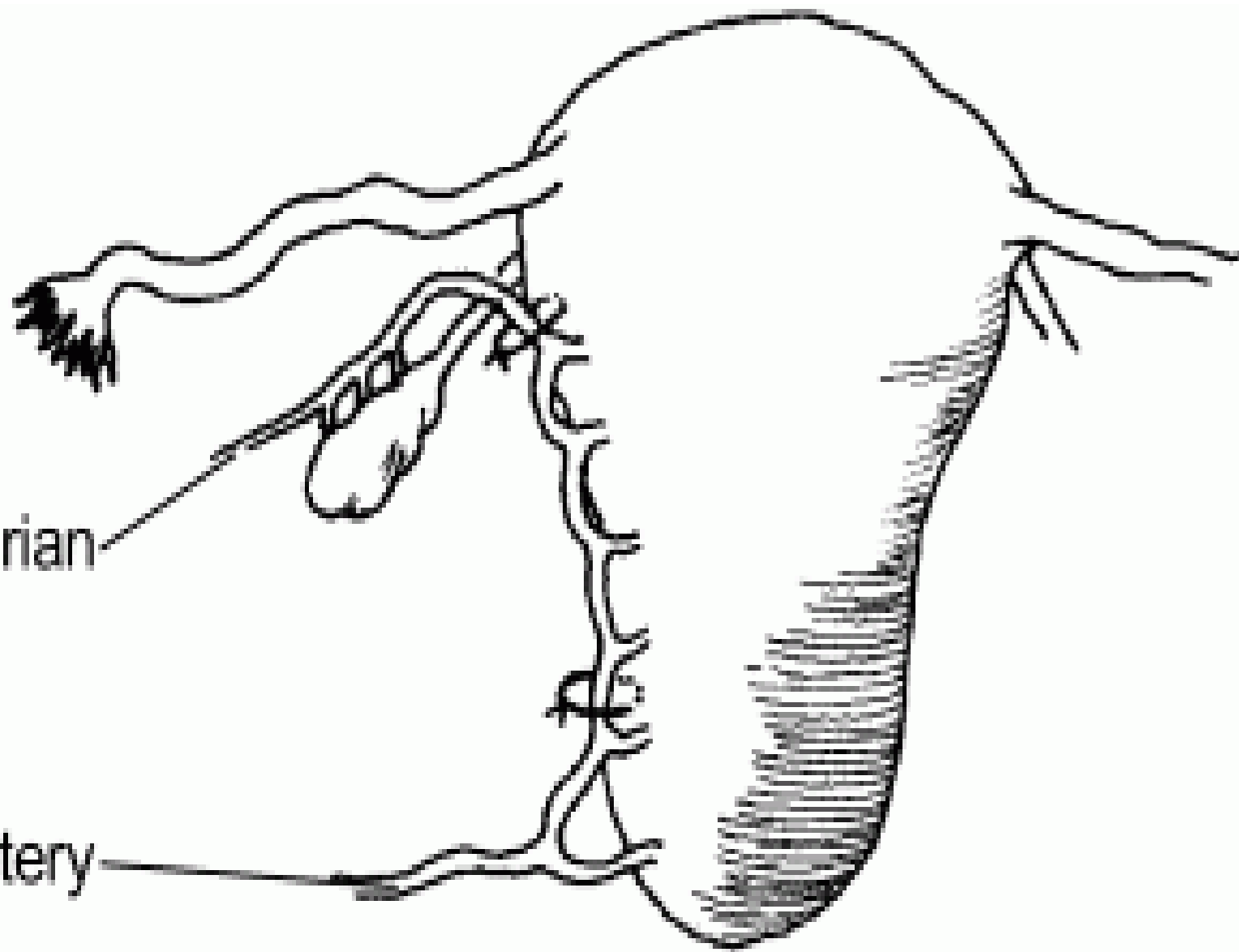
utero-ovarian artery ligation or

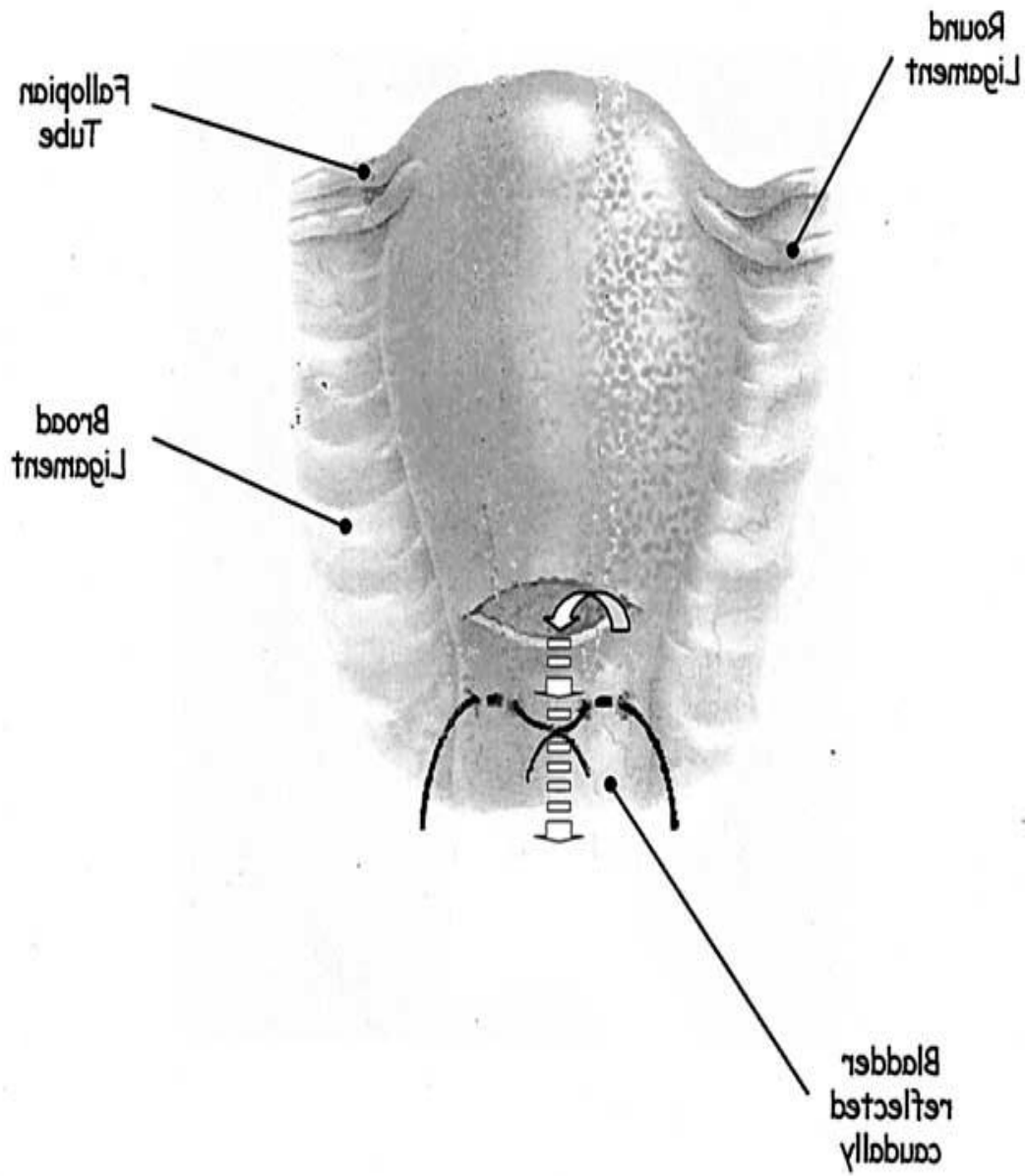
B Lynch suture

- * **If life-threatening** bleeding continues after ligation,
perform subtotal **hysterectomy.**
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Utero-ovarian
artery

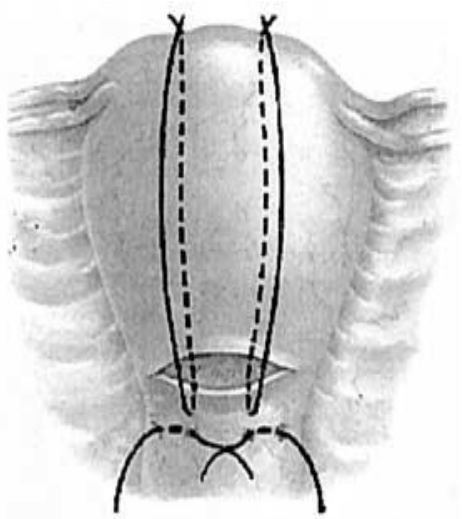
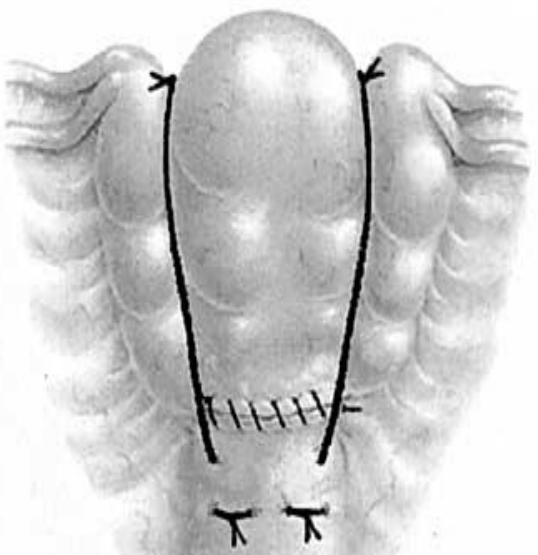
Uterine artery





A

B



2. RETAINED PLACENTA

- when it is not expelled 30 mins after delivery of the baby.

CAUSES:

- (1) **Uterine atony** due to full bladder, grandmultipara, uterine malformations .
 - (2). Constriction ring of uterus.
 - (3). Placenta accreta, increta & percreta.
 - (4). Mismanagement of 3rd stage of labour.
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There may be no bleeding with retained placenta.

- Put up iv line with blood set and reserve blood.
 - Ensure that the bladder is empty. Catheterize the bladder, if necessary.
 - Apply controlled cord traction to remove the placenta.(avoid forceful cord traction and fundal pressure, as they may cause uterine inversion)
 - If the placenta is not expelled, give oxytocin 10 units IM, if not already given for active management of the third stage.
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Do not give ergometrine for retained placenta because it causes tonic uterine contraction, which may delay expulsion.

- If the placenta is undelivered after 30 minutes of oxytocin stimulation and controlled cord traction, attempt manual removal of the placenta.

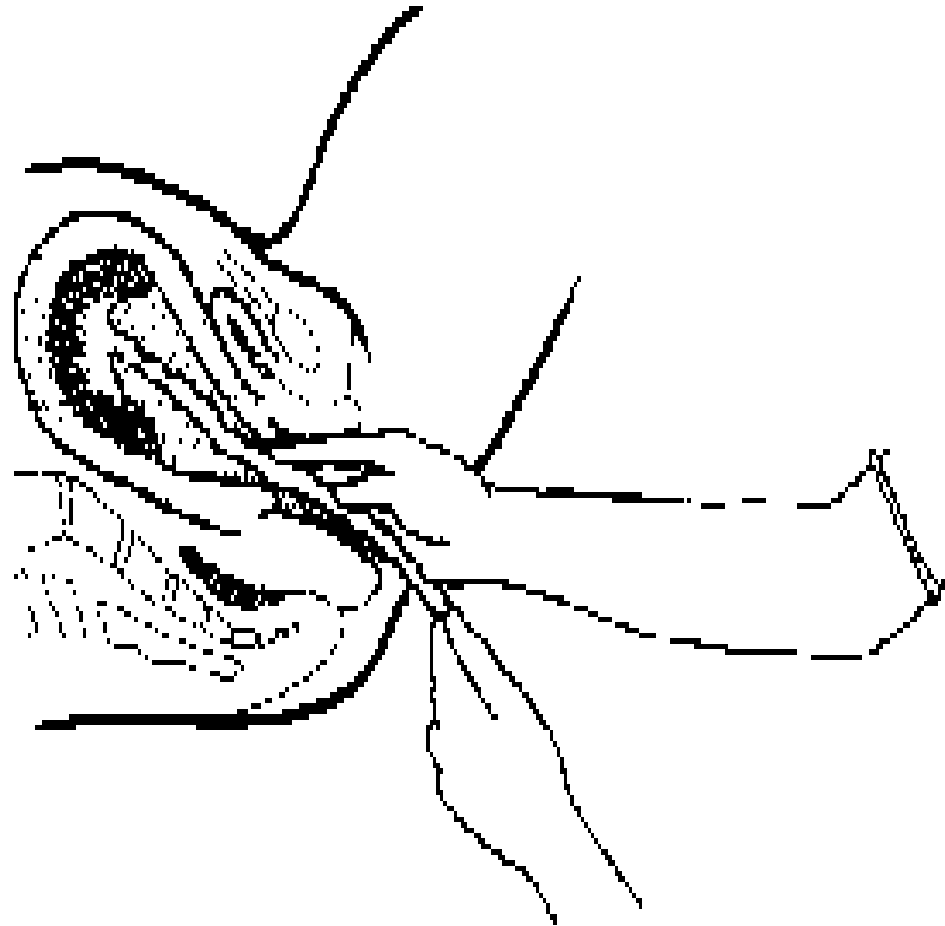
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- Prepare for manual removal of placenta **under anaesthesia** in the operating theatre.

(Very adherent tissue may be placenta accreta.)

- Efforts to extract a placenta that does not separate easily may result in heavy bleeding or uterine perforation, which usually requires **hysterectomy**)
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FIGURE P-42

Introducing one hand into the vagina along cord



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- * Follow the cord with the right hand through the cervix while the left hand press the fundus of the uterus per abdomen.
 - * Find the edge of the placenta and separate the placenta from the uterine wall. Remove only when totally separated and give oxytocics.
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FIGURE P-43

Supporting the fundus while detaching the placenta

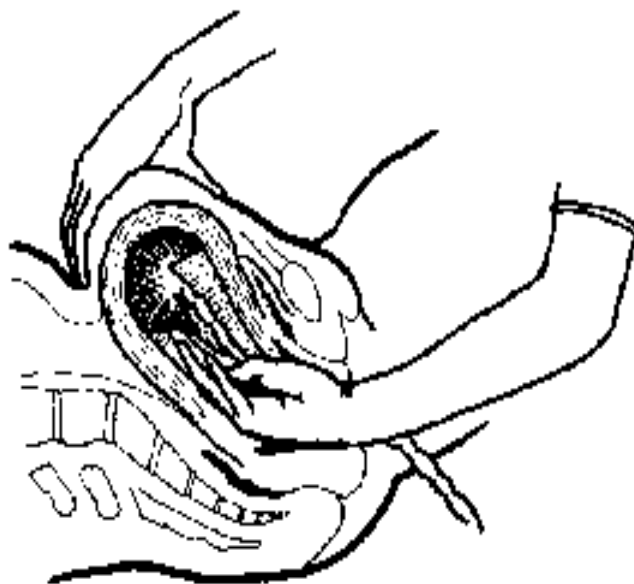
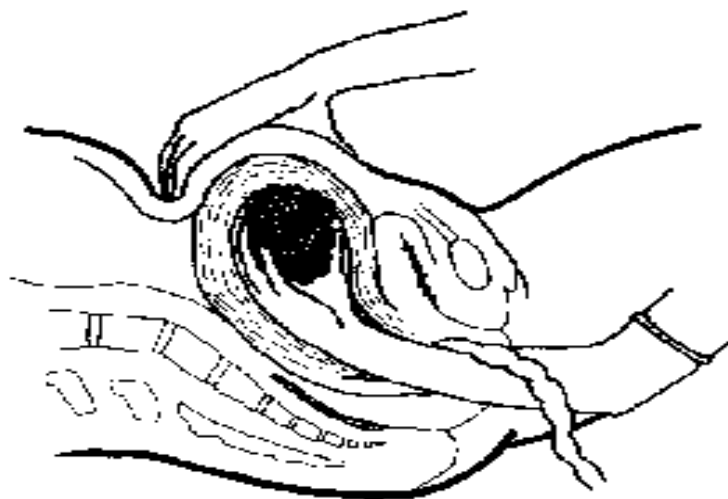


FIGURE P-44

Withdrawing the hand from the uterus



Check for tears in the birth canal.

Antibiotics should be administered routinely to prevent endometritis.

Blood transfusion if blood loss is more than 500ml or loss is rapid.

PLACENTA ACCRETA. . is a retained placenta that is morbidly adherent to the uterine wall.

Incidence has increased because of L.S.C.S.

Management. . simple excision of the site of trophoblast invasion with oversewing of the area to uterus or internal iliac artery ligation.

Hysterectomy is considered as a last resort.

Retained placental fragments

There may be no bleeding with retained placental fragments.

- When a portion of the placenta, one or more lobes, is retained, it prevents the uterus from contracting effectively.
 - Feel inside the uterus for placental fragments. Manual exploration of the uterus is similar to the technique described for removal of the retained placenta.
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- Remove placental fragments by **hand, ovum forceps or blunt curette.**
 - If bleeding continues, assess clotting status using a bedside clotting test.
 - Failure of a clot to form after seven minutes or a soft clot that breaks down easily suggests coagulopathy.
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3. Uterine rupture

1. **Complete rupture** (intraperitoneal)

Entire wall of uterus involved with lower segment tear usually with upper segment tear.

2. **Incomplete rupture** (extraperitoneal)

Part of the uterine wall, usually with lower segment tear. Less commonly in upper uterine segment, fundus, lateral tear, anterior.

Causes of uterine rupture:

During pregnancy

Spontaneous . . . rupture of caesarean scar, myomectomy scar
rupture of concealed haemorrhage.

Traumatic. direct blow on the abdomen forceful ECV.

During labour

Spontaneous *Obstructed labour

- * rupture of CS scar

- * injudicious use of oxytocics

- grandmultipara

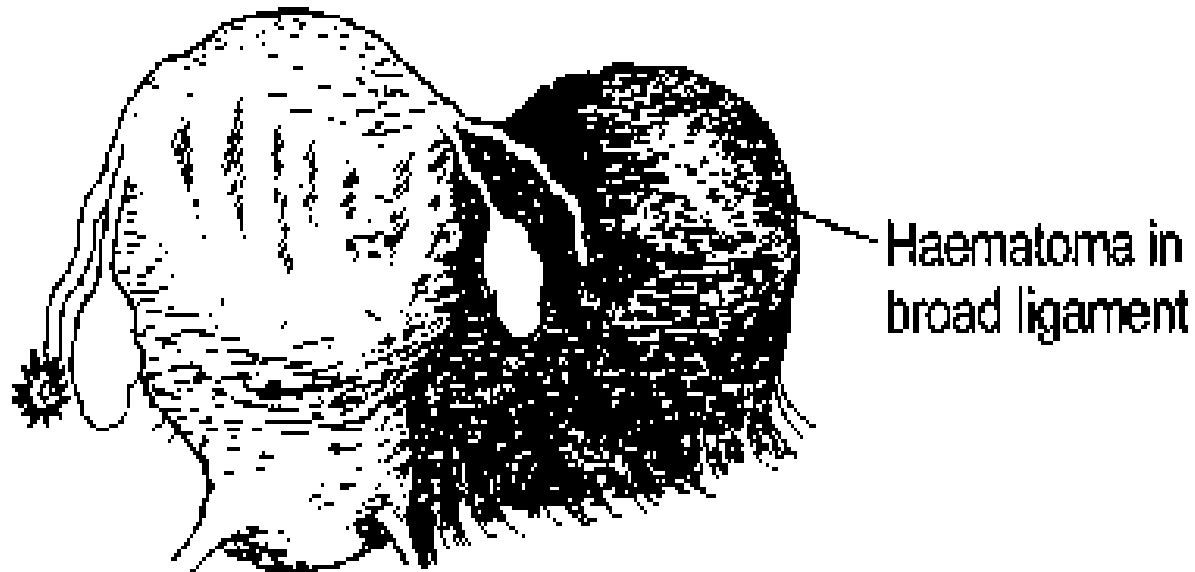
Traumatic *manipulation for obstructed labour

- *intrauterine manipulation e.g..internal version or manual removal of an adherent placenta.

- *difficult forceps.

FIGURE S-2

Rupture of lower uterine segment into broad ligament will not release blood into the abdominal cavity



Haematoma in
broad ligament

Diagnosis

Symptoms . . . acute abdominal pain,
pain over the scar, fainting.

During labour . . . prolonged labour with acute agonizing pain
sensation of something giving way inside the abdomen
followed by relief of pain and vaginal haemorrhage.

Signs shock, tenderness over the scar.

Incomplete rupture. . . .easily felt fetal parts and retracted uterus.

Complete rupturerestlessness, dry tongue,
↑ pulse rate, ↑ temperature
tender and distended lower segment,
retracted uterus,
gut distension
vaginal haemorrhage.

On vaginal examination . .Impacted presenting part with
excessive caput or high presenting part.

Management of ruptured uterus

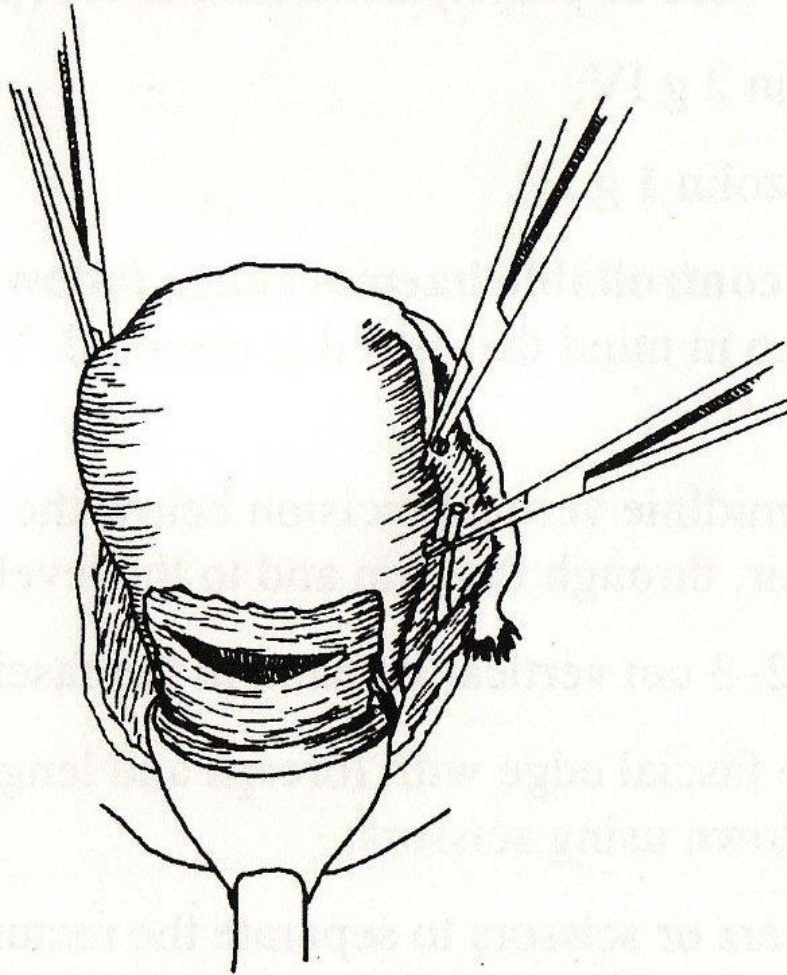
- Prevention**
- (1) AN care to detect high risk patients
 - (2) Select cases for hospital delivery
 - (3) Repeat caesarean section in classical scar, gross infection, two or more sections.

Anticipation and monitoring.

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- Treatment** (1) **restore blood volume** by infusion(normal saline or Ringer lactate solution or blood before surgery.
- (2) when stable, immediately **perform caesarean section** and deliver baby and placenta.
- (3) If uterus can be repaired with less operative risk than hysterectomy would entail and the edges of the tear are not necrotic, **repair the uterus.**
- (4) If the uterus cannot be repaired, perform **subtotal hysterectomy.**
- (5) If the tears extend through the cervix and vagina, **total hysterectomy** may be required.
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✓ **FIGURE P-54**

Dividing the round ligaments



✓ **FIGURE P-55**

Dividing the tube and ovarian ligaments

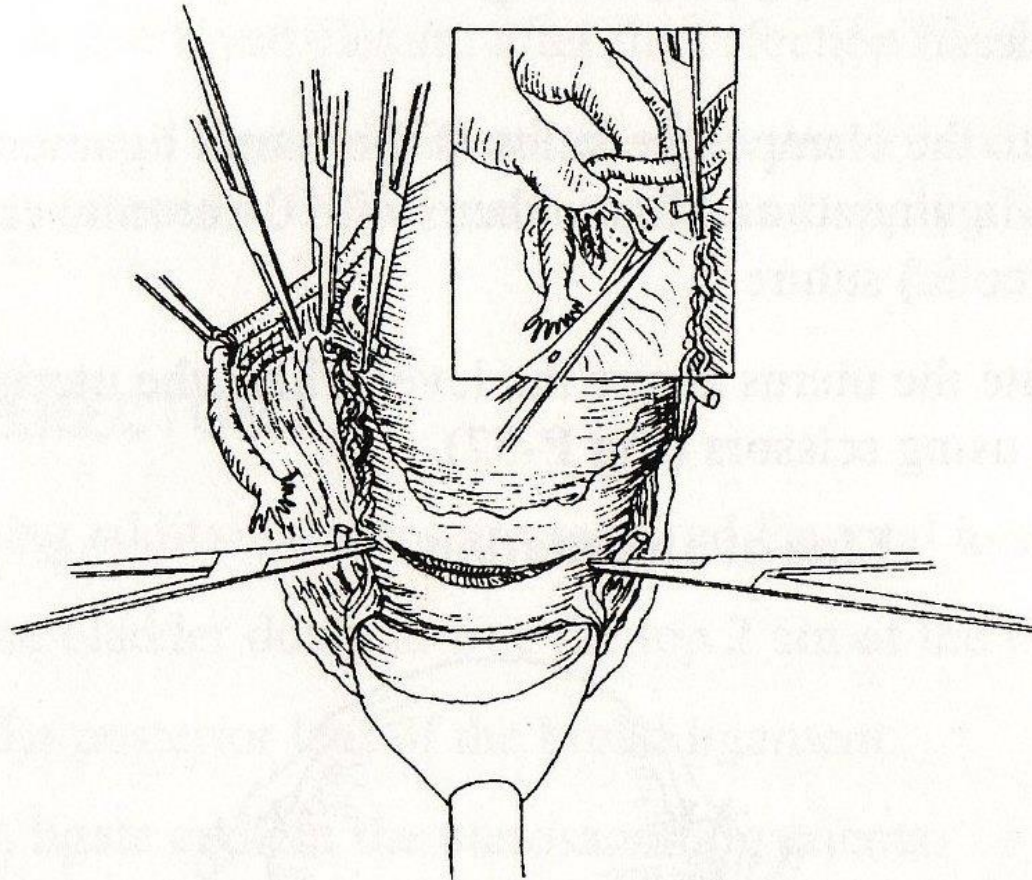


FIGURE P-56

Dividing the uterine vessels

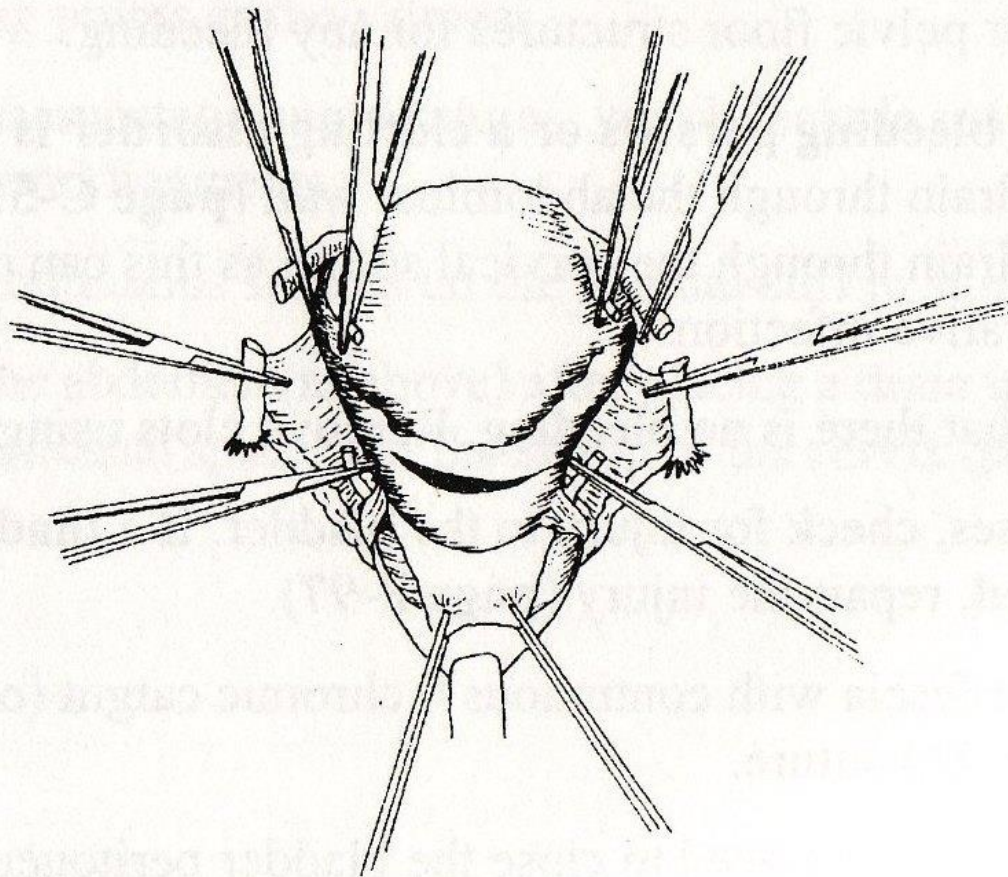
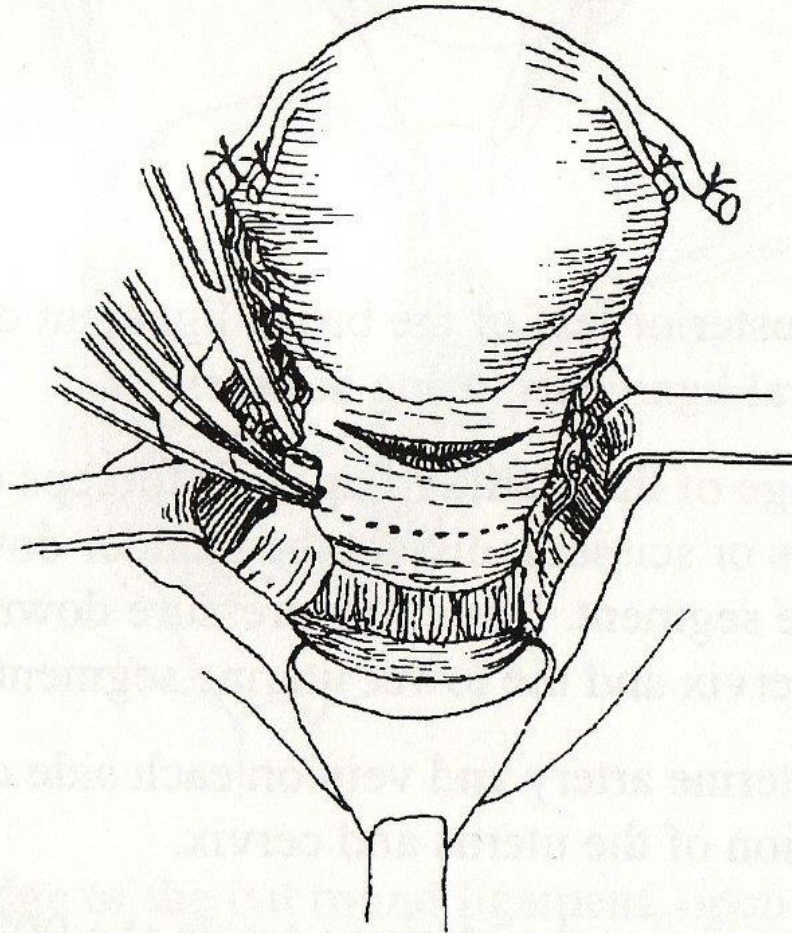


FIGURE P-57

Line of amputation



Tears of cervix, vagina or perineum

The second most frequent cause of PPH.

Tears may coexist with atonic uterus.

PPH with a contracted uterus is usually due to a cervical or vaginal tear.

- *Examine the woman carefully and repair tears to the cervix or vagina and perineum.
 - *Provide emotional support and encouragement.
 - *For most cervical tears, anaesthesia is not required.
 - *For high and extensive tears, give pethidine and diazepam slowly (do not mix in same syringe) or use ketamine.
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4. Uterine inversion

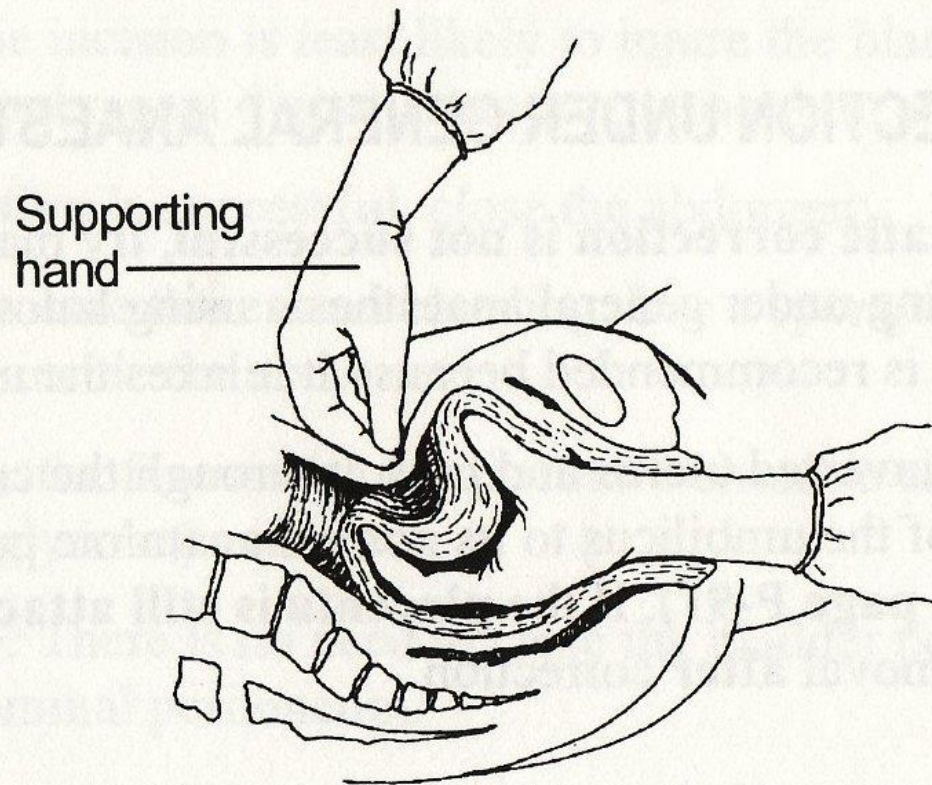
- Turning inside out of the uterus .
- Repositioning the uterus should be performed immediately.
- With the passage of time the constriction ring around the inverted uterus becomes more rigid and the uterus more engorged with blood.

Causes:

1. Pushing from above
 2. Pulling on the cord before the placenta is completely separated .
 3. Precipitate labour of the fetus with a short cord.
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✓ **FIGURE P-52**

Manual replacement of the inverted uterus

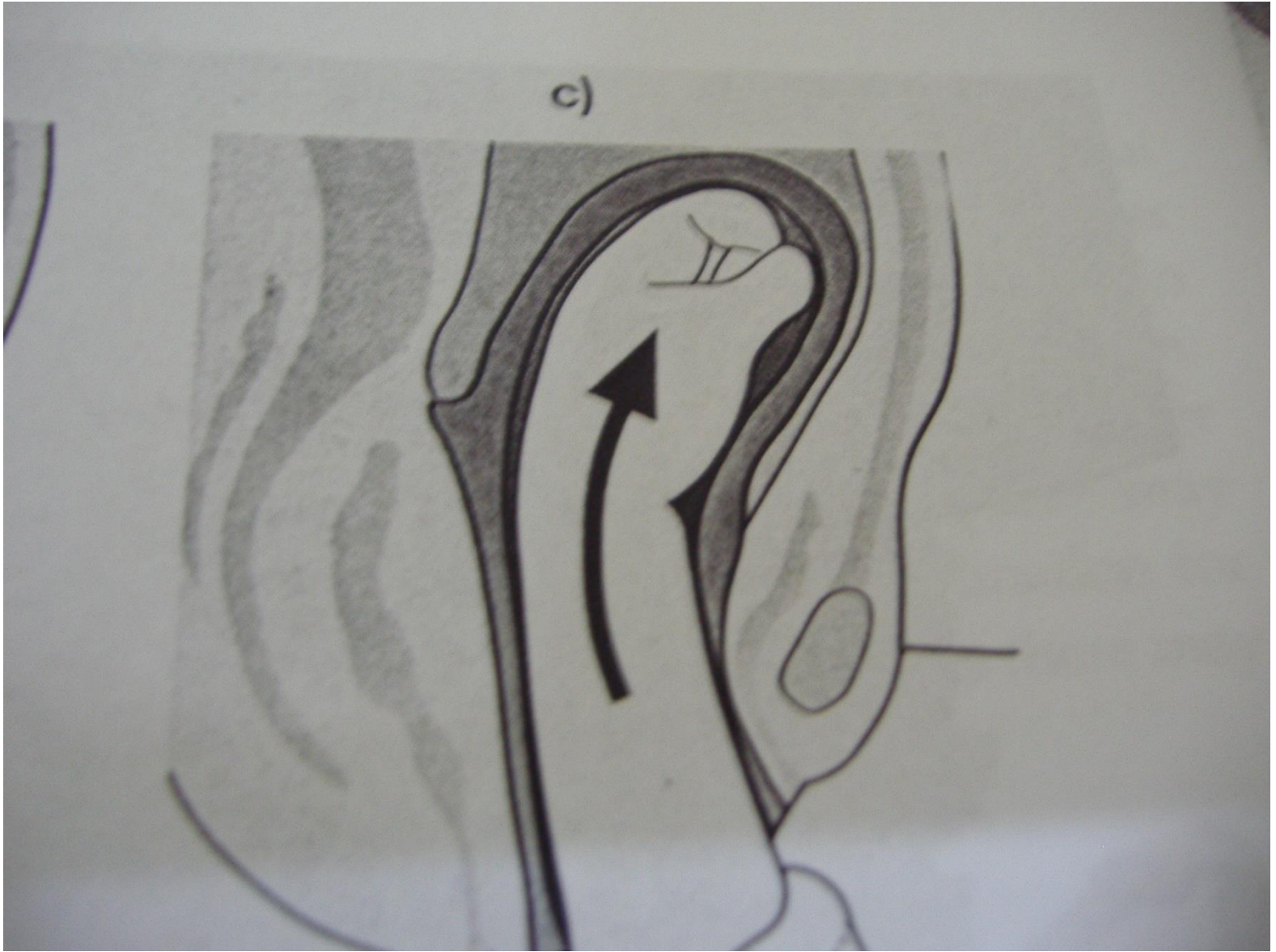


- **If correction is not achieved, proceed to hydrostatic correction (page P-92).**

Management

1. Put up IV line.
 2. Give pethidine 1mg/kg body weight IM or IV slowly or give morphine 0.1mg/kg body weight.
 3. Revive if patient is in shock (usually due to neurogenic shock)
 4. Reposition the uterus under aseptic precautions.
If the placenta is still attached, manually remove the placenta after correction. IV oxytocics after the above procedure.
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c)



5. Do not give oxytocic drugs until the inversion is corrected.

6. O'sullivan's method (hydrostatic correction) is an alternative method.

A woman is placed in deep Trendelenburg position.

Sterile warm saline 3 to 5 litre was put into the vagina from a can raised 3 feet above the patient's level while closing the introitus with both hands.

7. If hydrostatic correction is not successful, manual repositioning under general anaesthesia can be done.

5. Amniotic fluid embolism

*When amniotic fluid enters the maternal circulation causes acute cardio respiratory compromise as well as a coagulation defect, which is often severe.

Rare condition. . . 1:30,000.

Associated with **rupture of the membranes** (spontaneous or artificial rupture of membranes) ,

oxytocics,

rapid labour, vaginal delivery and caesarean section.

Symptoms: *Sudden onset of severe chest discomfort and difficulty in breathing.

* Massive frothy secretions.

* Patient may become pale and cyanosed with signs of cardiovascular collapse.

Signs of amniotic fluid embolism

- venous congestion may be obvious with a raised jugular venous pressure.
 - output failure becomes evident with tachycardia, hypotension and peripheral vasoconstriction.
 - haemorrhage with coagulation failure (petechial skin haemorrhage bleeding at the puncture sites and vaginal bleeding).
-

Investigations. . there is no time for investigation as these patients are critically ill and 30 per cent will die in the first hour.

Management. . suction,
cardiopulmonary resuscitation,
artificial respiration after clearing airway,
iv dopamine and
steroids may be useful.
Acidosis should be corrected and aggressive
treatment of coagulopathy pursued.

6. Coagulopathy

Coagulopathy is both a cause and a result of massive obstetric haemorrhage.

It can be triggered by :

abruptio placentae,

fetal death in-utero,

eclampsia,

amniotic fluid embolism and many other causes.

-
- Management:**
- * Treat the possible cause of coagulation failure.
 - * Use blood products to help control haemorrhage.
 - * Give fresh whole blood, if available, to replace clotting factors and red cells.
 - * If fresh blood is not available, choose one of the following:
 - fresh frozen plasma to replace clotting factors
 - packed red cells for red cell replacement
 - cryoprecipitate to replace fibrinogen.
 - platelet concentrates.
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Secondary postpartum haemorrhage **(delayed haemorrhage)**

Usually due to infection. If there are signs of infection (fever, foul smelling vaginal discharge), give antibiotics for metritis.

{Prolonged or delayed PPH may be a sign of metritis}

If anaemia is severe (Hb less than 7g/dl or haematocrit less than 20%) . . . blood transfusion and provide oral iron and folic acid.

Give oxytocic drugs.

-
- If cervix is dilated, explore by hand to remove large clots and placental fragments.
 - If cervix is not dilated, evacuate the uterus to remove placental fragments.
 - (rarely if bleeding continues, uterine and utero-ovarian artery ligation or hysterectomy)
 - Perform histopathologic examination of curettings or hysterectomy specimen to rule out trophoblastic tumour.
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THANK YOU
