"*Learning* is the only thing the mind never exhausts, never fears, and never regrets."

Dr. Richa Sharma (MS, MNAMS, FICOG, FICMCH, FMAS)

Professor, OBGy ,University College of Medical Sciences & GTB Hospital Delhi
FOGSI – MTP Committee Chairperson . 2021-2024
National Corresponding Editor Journal of Obs & Gyn India (JOGI) 2021 - 2024
Joint Secretary IAGE Delhi Chapter 2021 - 2023
AOGD Endoscopy Committee Chairperson 2019-2021
AOGD – Skills workshop coordinator (2017-1018)
AOGD Co-Editor 2011-2012

Awards

- ❑AOGD - Dr. Suneeta Mittal's Gold Medal on Population Stabilization 2016 & 2017
- ❑FOGSI Corion Award in Junior Category 2016
- ❑FOGSI – IPAS Young Talent Promotion and MTP Committee Award 2017
- ❑FOGSI - Late Dr. Privin Mehta Training Fellowship in Laparoscopy Award 2018
- ❑FOGSI – Imaging Science Award 2018
- ❑FOGSI –Dr. RD Pandit Research Award 2018
- ❑ICOG Emcure Travel Award 2019
- ❑1st Prize - DGES – ESGE, Delhi 2018
- ❑FOGSI - Dr. CS Dawn Prize for scientific Research 2018 & 2019
- ❑FOGSI Padmabhooshan Award 2018
- ❑FOGSI- Leaders of Tomorrow 2019
- ❑WONDER FOGSIAN Award 2019
- ❑FOGSI International Perinatology conference, 2nd Prize 2020
- ❑AOGD appreciation Award, as Endoscopy committee chairperson, Covid times 2021
- ❑FOGSI 1st Prize E-Poster &Slogan, World Environment day 5th June 2021

Prizes:
1st Prize FOGSI BOH 2017 The Triology
Best Case Report Prize NARCHI 2014
3rd Prize North Zone Yuva FOGSI 2014
2nd Prize in Round Table conference North Zone Yuva FOGSI 2016
2nd Prize NARCHI 2016
1st Prize DGES – ESGE 2018
Certificate of Excellence (Faculty Category). EET CRS 5th Faculty Branding Award: – 2017 kolkata

Organising Chairperson
- Several Endoscopy workshops, CMEs and training Programs
- Various Community Awareness Programs and Health Camps
- Several Training Programs for ANMs

- ✧**More than 75 Publications in National & International Journals**
- ✧**Presented 90 papers in State & National Conferences**
- ✧**Invited Faculty in several conferences and Workshops**
- ✧Organising Chairperson AOGD Precongress Endoscopy live workshop & FOGSI Fertility Enhancing Endoscopy workshop 2019
- ✧Organising Secretary - International Hysteroscopy Congress 2018 (Regional GCH – Asia Pacific Congress) Delhi
- ✧Member of Scientific Committee of Global Congress on Hysteroscopy (GCH) at Barcelona , May 2019

Dr. Jaydeep Tank

MD, DNB, DGO, FCPS, MICOG.

Secretary General Federation of Obstetrics and Gynaecological Societies of India (FOGSI) 2018 - 2021

Project Lead FOGSI - USAID Projects 2020 - 2024

Past President , Mumbai Obstetrics and Gynaecological Society (MOGS)

Chair International Federation of Obstetrics and Gynaecology (FIGO) Committee for Safe Abortion.

Deputy Secretary Asia Oceania Federation of Obstetrics and Gynaecology (AOFOG)

Awarded the FRCOG Honoris Causa in 2020 by the Royal College of Obstetricians and Gynaecologists (to be conferred in September 2021).

Past Chair Publication and News letter committee AOFOG,
Past Chair Reproductive Endocrinology and Infertility Committee AOFOG
Past Chair - MTP committee FOGSI

Consultant: Ashwini Maternity and Surgical Hospital, Center for Endoscopy and IVF, Co Founder Esperanza Healthcare Pvt Ltd, Program Director and Member of board ProFert IVF. Visiting Consultant for IVF at more than a dozen IVF centres.

Instrumental in drafting the proposal for FIGO which has resulted in a grant of 13 million dollars for a ten country project (8 in Africa and 2 in South America) and is the technical lead for the project.

I am also working on developing a project for the MOGS geared toward assisting underprivileged women in urban slums with their menstrual hygiene needs.

Contributed to the electronic membership management system and e voting for FOGSI, developing a completely redrafted user friendly constitution for FOGSI, and contributed and led the development of the FOGSI statements on Cesarean Rates, Hysterectomy rates, Contraceptive Implants, ART Bill, Surrogacy bill, the FOGSI WP's and interventions in Supreme Court on PCPNDT, The IRIA case, The Oxytocin case and others, restructuring of the FOGSI cells, the minutes of the FOGSI MCM and GBM's and several other initiatives.

PPH: Challenges in management

Globally

- ~2 % of deliveries
- 1/4th of maternal deaths globally
- Leading cause of maternal mortality in low income countries

WHO, 2012

India

- Largest contributor to maternal mortality
- 30- 40% of the maternal deaths

NHM, GoI, Nov 2013

Case 1

- A 25 yrs PGR with uneventful antenatal course delivers at term with an episiotomy resulting in the birth of 2.8 Kg male child with 9,9 APGAR. She has no risk factors for PPH. The placenta has not been delivered 10 minutes after the birth of the child.

Q1.How do you usually manage the third stage of labour and what are component of AMTSL?

Dr Sarika

✓Identification of high risk patient

✓Treat antenatal anemia

✓Educate patients regarding PPH

✓High risk patients to be managed in tertiary care centre

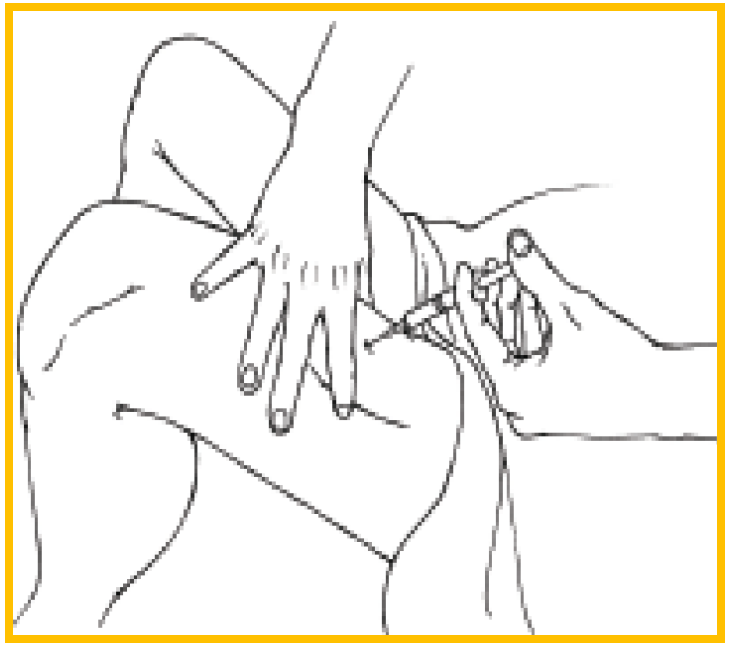
✓Active management of third stage of labour (AMTSL) – **The Gold Standard Strategy**

- **AMTSL reduces incidence of PPH , quantity of blood loss and need for BT**
- **AMTSL reduce the risk of PPH by about 60%**

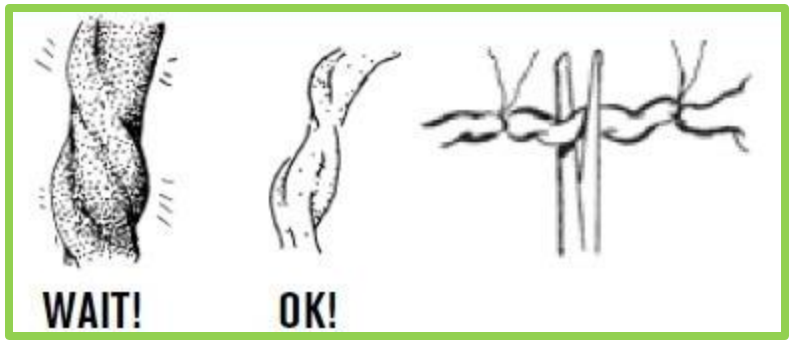
COCHRANE 2009
RCOG 2018

AMTSL

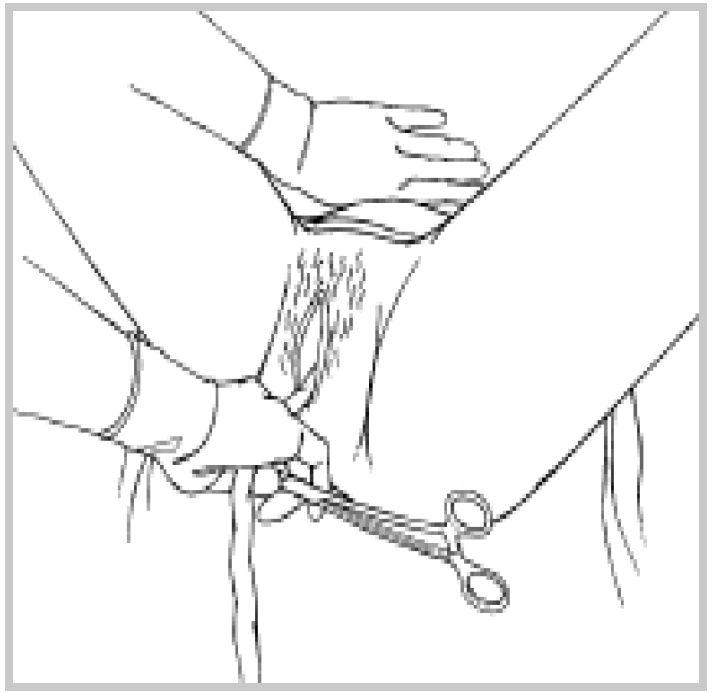
WHO 2012



1. Give uterotonics within 1 min of delivery of baby



2. Delayed clamping of cord



3. Controlled cord traction

- **Continuous uterine massage is not recommended as an intervention to prevent PPH in women who have received prophylactic oxytocin, as it may**
  - **cause maternal discomfort**
  - **require a dedicated health professional**
  - **may not lead to a reduction of blood loss**

- **However, surveillance of uterine tonus through abdominal palpation is recommended in all women for early identification of postpartum uterine atony**

WHO 2012

NICE 2018

Q2. Practically at your set up – what is your algorithm of drug, doses, route and timing of oxytocics. What is the oxytocic of choice ? (At community level and at equipped center)

Dr Neelam

Uterotonic Drugs

- **FIRST LINE** **Oxytocin**
- **10 units IM**

  OR
- 20-40 units in 1 L of NS at 60 drops/min.
- Continue oxytocin infusion – 20 units in 1 L of NS at 40 drops /min until bleeding stops.
- Maximum upto 3 L.
- **SECOND LINE** **Ergometrine/ methyl ergometrine**
- Dose: 0.2 mg IM or slow IV
- Repeat 0.2 mg after 15 min.
- Maximum 5 doses (1 mg) in 24 hrs

  OR
- **Syntometrine** IM (combination of oxytocin 5 units & ergometrine 0.5 mg)

- **THIRD LINE**

PGF 2α

- Dose: 0.25 mg IM
- Can be repeated every 15 min.
- Maximum upto 2 mg or 8 doses.

Misoprostol

- 200-800 µg sublingually.
- Do not exceed 800 µg

Tranexamic Acid

- If above drugs fail or if bleeding is partly due to trauma

Recommendations for the treatment of PPH, WHO 2012

Q3.How long do you wait for the placenta to deliver before any manual intervention and discuss tips and ticks of MRP.

Dr Aparna

Tissue

Retained placenta

- Placenta not expelled within 30 minutes with active management and 60 min with physiological management after delivery of the baby
- Affects 0.5-3% of women following delivery

Intraumbilical oxytocin injection or administration of prostaglandins by any route for management of retained placenta **did not result** in a significant reduction in need for manual removal of retained placenta

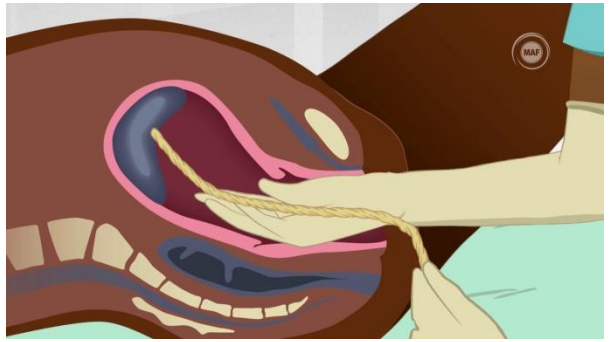
Management

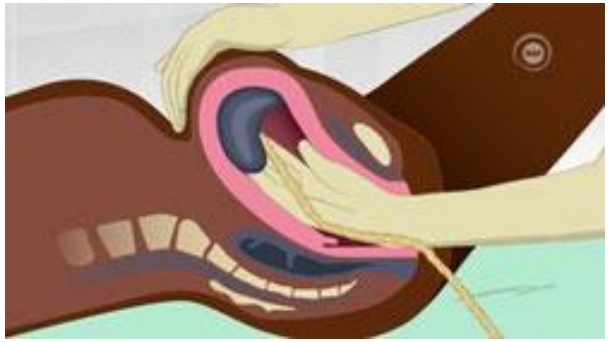
- Additional oxytocin (10 IU, IV/IM) + Controlled Cord Traction
- Manual removal of placenta
- **Ergometrine - not recommended - may cause tetanic uterine contractions - delay the expulsion of the placenta**
- Prostaglandin E2 alpha (dinoprostone or sulprostone) - **not recommended**
- Single dose of antibiotics (ampicillin or first-generation cephalosporin) **recommende**d - if manual removal of the placenta is practised

Manual removal of placenta

- General anaesthesia , bladder catheterization
- One hand follows the path of the umbilical cord through the vagina, cervix, and lower uterine segment to find the maternal-placental interface
- The other hand steadies the uterine fundus through the maternal abdomen
- The plane of interface, which feels velvety and irregular, is gently dissected using a side-to-side sweeping motion of the fingers until the placenta has been completely

separated





Case 1

Q4 CCT (Controlled cord traction)– when and how should be practiced? If neurogenic shock develops how would you manage?

Dr Richa

Prevention during LSCS

Oxytocin (IV or IM) is the recommended uterotonic drug for the prevention of PPH in C.S

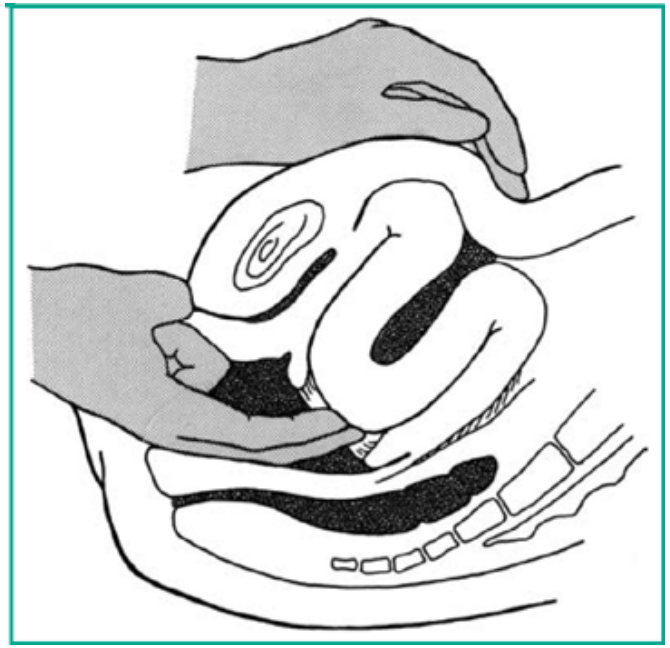
cord traction is the recommended method for the removal of the placenta in C.S

WHO 2012

Oxytocin (5 iu by slow intravenous injection)

RCOG 2011

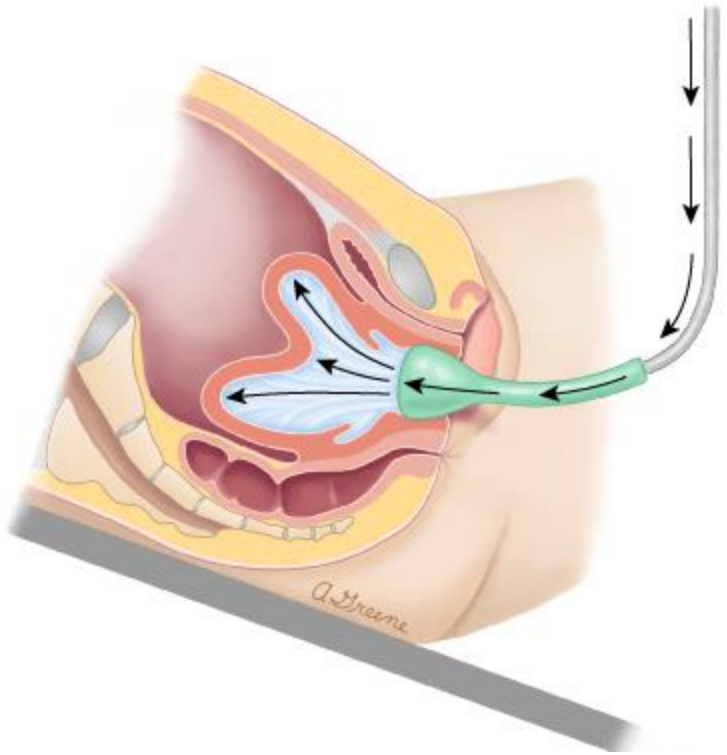
- Neurogenic shock usually recovers after reposition
- Sometimes – vasopressors like Dobutamine
- Look for ABC also as any of the shock might be associated with hypovolemic shock



Johnson maneuver

Q5. If the os is still open in case of inversion, what would you do next? Is anaesthesia mandatory before manual reposition?

Dr Shweta



O’Sullivan's method

- Anaesthesia not always required
- But in cases of delayed presentation, oedema, constriction ring formed or failed vaginal reposition or even for vaginal reposition also sometimes

Q6. If constriction ring forms which is not negotiable what can be done next?

Dr Sunita

Acute postpartum uterine inversion

↓

Early clinical diagnosis
Rule out a ruptured uterus

↓

Immediate manipulative reposition

Resuscitative measures started simultaneously

↓

Manual reposition in theatre under general anesthesia (Johnson's method)

↓

Hydrostatic reposition (O'Sullivan's technique)

↓

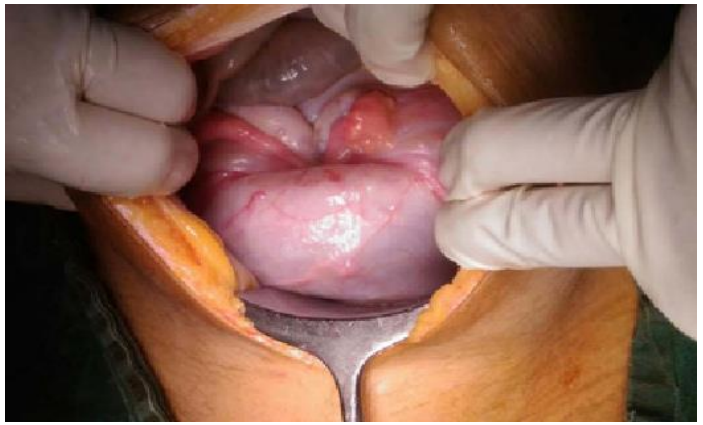
Emergency Laparotomy for uterine reposition by:
Mechanical pulling up of the fundus from the constrictive ring (Huntigton's technique)
Division of the constrictive ring posteriorly followed by reposition (Haultain's technique)

↓

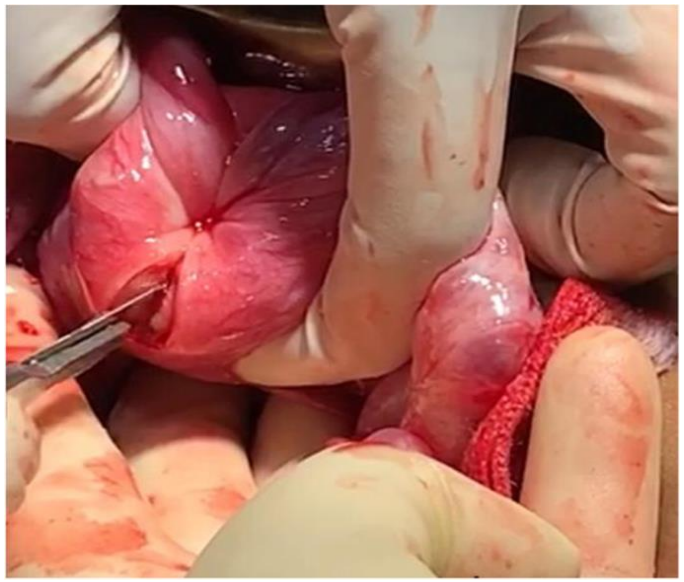
Obstetric Hysterectomy

↓

Post operative management with resuscitation, antibiotics and carboprost (if uterus is intact)



Huntington's *technique*



Haultains Technique

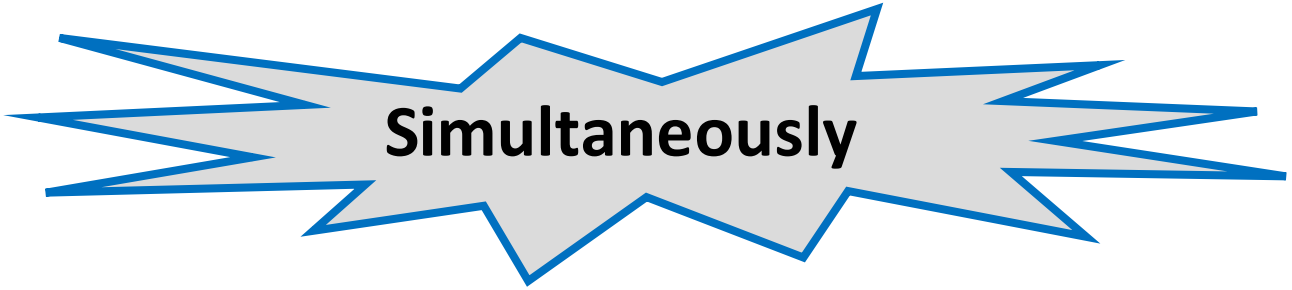
Case 2

A 30 yr old unbooked G2P1L1 at 35 weeks POG comes in labour with bleeding p/v and oedema over both feet.Her BP was 164/104 mmHg and urine albumin was 2+. She delivered a 1.8 kg live baby within 30 minutes after admission. Retroplacental clot of 300 gm seen after delivery of placenta and then she developed PPH .

Q1. What would be your initial management in this case?

Dr Sarika

Principles of Management



Communication

Resuscitation

Monitoring and Investigation

Arrest the bleeding

Team Effort

- Skilled Obstetric Team
- Trained Anaesthetist
- Clinical hematologist
- Supporting staff
- Blood Bank
- Lab
- Radiology
- OT

Resuscitation

- **Assess**

- Secure **2 wide bore i.v. lines**:- 14-16 gauge
- Draw blood for **grouping & cross matching, CBC, LFT/KFT, S. Electrolytes & Coagulation screen** including fibrinogen.
- Administer **oxygen by mask** @ 10-15 litres/ min

Fluid Replacement

- RAPID WARMED infusion of fluids
- **Crystalloids (Ringer Lactate): Fluids of choice** until compatible blood is arranged
- 1 ml of blood loss = 3 ml of crystalloids
- **Total volume of 3.5 litres of clear fluids** (upto 2 litres of crystalloids followed by 1.5 litres of warmed colloid) may be given while awaiting compatible blood.

MONITORING

- Keep position flat
- Keep the patient warm
- Continuous vital monitoring
- Foley's Catheter to monitor urine output
- Monitor adequacy of replacement with urine output (0.5 ml/kg/hr) and CVP (4-8 cm water)
- Main therapeutic goals are to maintain:
  - Haemoglobin > 8gm/dl
  - Platelet count > 75×10^9 / l
  - Prothrombin < 1.5 × mean control
  - APTT < 1.5 × mean control
  - Fibrinogen > 1 gm/ l

Q2. What are the possible causes of PPH and how do you proceed for further management?

Dr Neelam

Establish Etiology Simultaneously

- Tone (abnormalities of ut. contraction)70–80%
- Trauma (of the genital tract) 20%
- Tissue (retained products of conception) 10 %
- Thrombin (abnormalities of coagulation) 1%

Stop the bleeding

1. If uterus is atonic, use oxytocin, prostaglandin, or ergonovine.
2. Explore and empty the uterine cavity, and consider uterine packing.
3. Examine the cervix and vagina, ligate any bleeding vessels, and repair trauma.
4. Ligate the uterine blood supply (ie, uterine, ovarian, and/or internal iliac arteries).
5. Consider arterial embolization.
6. Consider hysterectomy.

Defective Blood Coagulation

1. **Order coagulation screen** (INR, APTT) if fibrinogen, thrombin time, blood film, and D-dimer results are abnormal.
2. **Give FFP if coagulation test results are abnormal** and sites are oozing.
3. **Give platelet concentrates if the platelet count is less than 50 X 10^9/L** and bleeding continues.
4. **Give cryoprecipitate if abnormal coagulation test results are not corrected with FFP** and bleeding continues.

Management of massive obstetric hemorrhage **(ORDER)**

- **Organization**
- **Resuscitation**
- **Defective Blood Coagulation**
- **Evaluation of response**
- **Remedy the cause of bleeding**

WHO recommendations for the prevention and treatment of postpartum haemorrhage (2012)

Q3. What is massive blood transfusion? What is the ratio of various blood components?

Dr Aparna

Ratio of various blood components

- **FFP**: 4 Units for every 6 Units of red cells

  OR

  PT/ APTT > 1.5 X normal

  (ie 12-15 ml/kg or total of 1 litres.)

Plasma:pRBC:Platelet = 1:1:1

- **Platelet Concentrate**:

  if Platelet count< 50,000/ microlitre.

- **Cryoprecipitate**: if fibrinogen < 1 g/ l.

- **Massive blood transfusion** is defined as **replacement of more than 50%** of a patient's blood volume in 24 to 48 hours
- Loosely speaking, **transfusion of more than 10 units of PRBC in 24 hours** is MBT.
- It may be associated with various **complications**
- **Bleeding disorder** due to diluted clotting factors VIII and V, low platelets. So transfusion of FFP, platelet concentrate, Cryoprecipitate can prevent this complication
- Since stored blood is anticoagulated with sodium citrate so MBT can cause citrate toxicity leading to **Hypocalcemia.** So Calcium supplement should be given with MBT
- Rapid MBT of cold blood may cause **Hypothermia and cardiac arrhythmias.** So blood should be warmed properly before transfusion.
- Plasma potassium levels in stored blood increase due to passive leakage of potassium out of red cells. Infants and patients with renal impairment may develop **Hyperkalemia.**

Q4. What is the role of factor VII and cryoprecipitate?

Dr Richa

Recombinant Activated Factor VII

- There is lot of controversy regarding its usage
- Very expensive.
- Current recommendation -should be used after failure of conventional methods and before performing hysterectomy.
- Major concern is **thrombogenic potential**-causes thrombin burst, promoting clotting in open vessels, a potiential for thrombotic complication.
- **Women with severe PPH -- susceptible to severe hypofibrinogenaemia, factor VIIa is considered.**
- **Novoseven - 90 µg/Kg IV over 3-5 minutes, repeated within 15-30 minutes only if necessary. No clear consensus on efficacy.**

RCOG

Cryoprecipitate

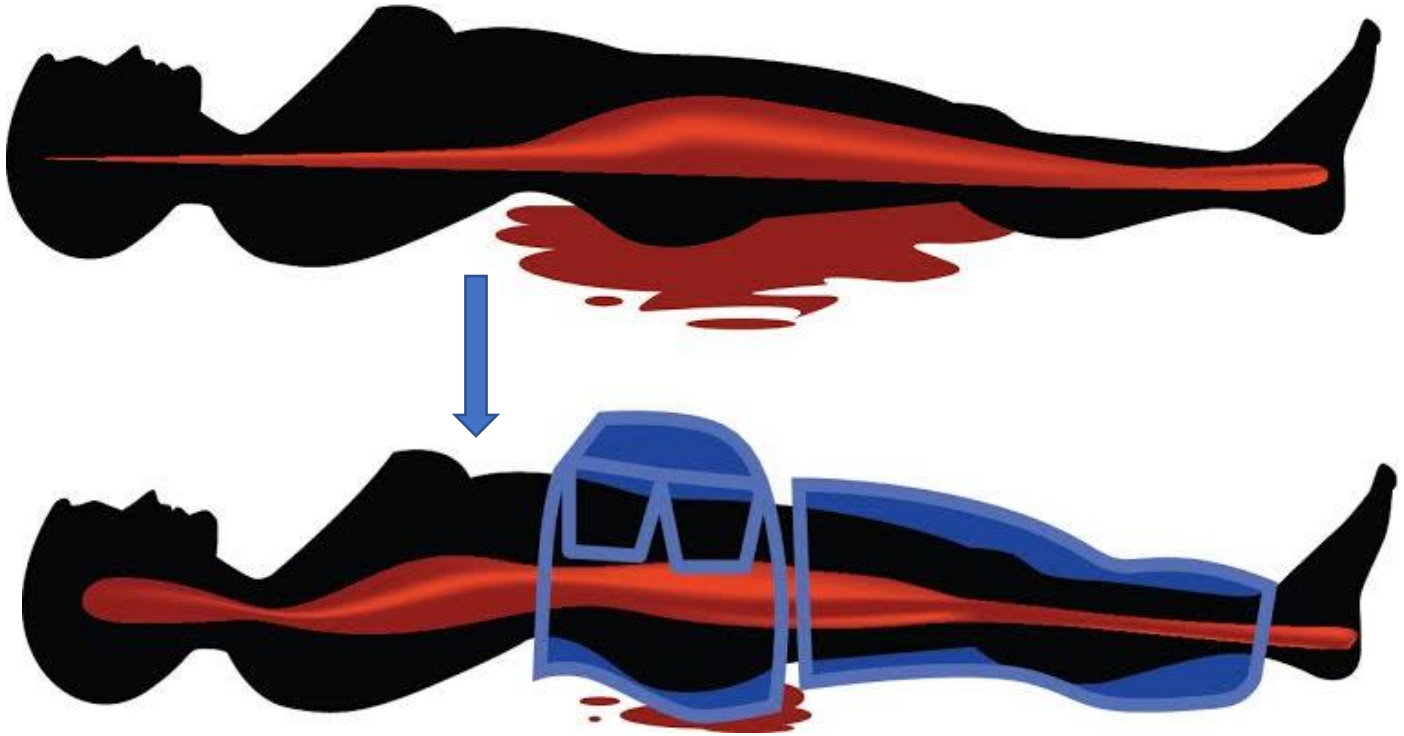
- Cryoprecipitate: if fibrinogen < 1 g/ l give 2 pools (10 units)
- Each unit contains 15 ml and increases fibrinogen levels by 200 mg

Q5. NASG – when to be used?

Dr Shweta

Non-Pneumatic Anti-Shock Garment (NASG)

The use **of non-pneumatic anti-shock garments is recommended as a temporizing measure** until appropriate care is available.



Non-Pneumatic Anti-Shock Garment (NASG)

- **NASG is a simple device that counteracts shock and controls bleeding through direct pressure**
- **Auto transfusion of blood in upward direction**
- **Ball in abdominal segment applies focused pressure to uterus**
- **Circumferential pressure on lower half of body reduces the total vascular space**
- **Vital organs get increased blood supply & oxygenation.**
- **Stabilization of patient during transport**

Case 2

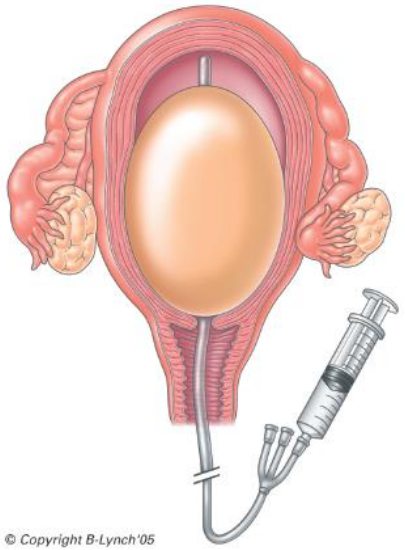
Q6. Role of UBT in this case? Which type of UBT do you practice in your set up and why?

Dr Sunita

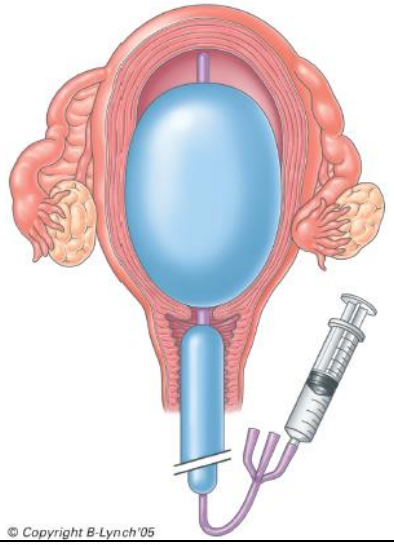
Intrauterine Balloon Tamponade

- **A balloon (inflated with saline/water) exerts pressure to stop bleeding from within the uterus in 5-15 mins.**
- **Is very effective (≥85%) when uterotonics fail. Can prevent need for laparotomy and hysterectomy.**
- **Easy to use**
- **Can effectively be used in low resource settings**
- **Positive Tamponade Test** – If bleeding is controlled by inflating the balloon with 100-300 ml of warm NS.

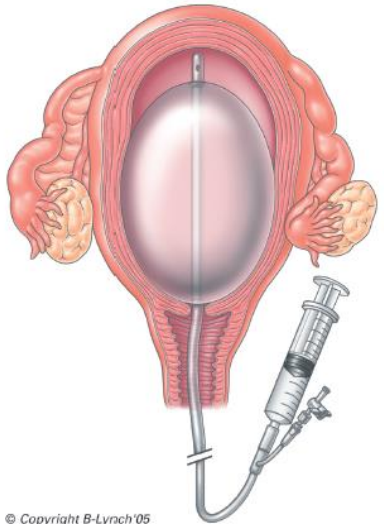
Intrauterine Balloon Tamponade



SOS – Bakri Balloon Tamponade

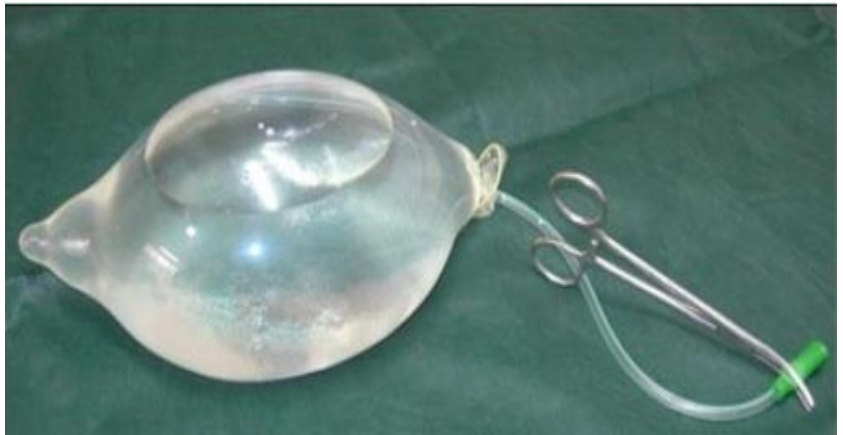


Sengstaken-Blakemore Balloon Tamponade



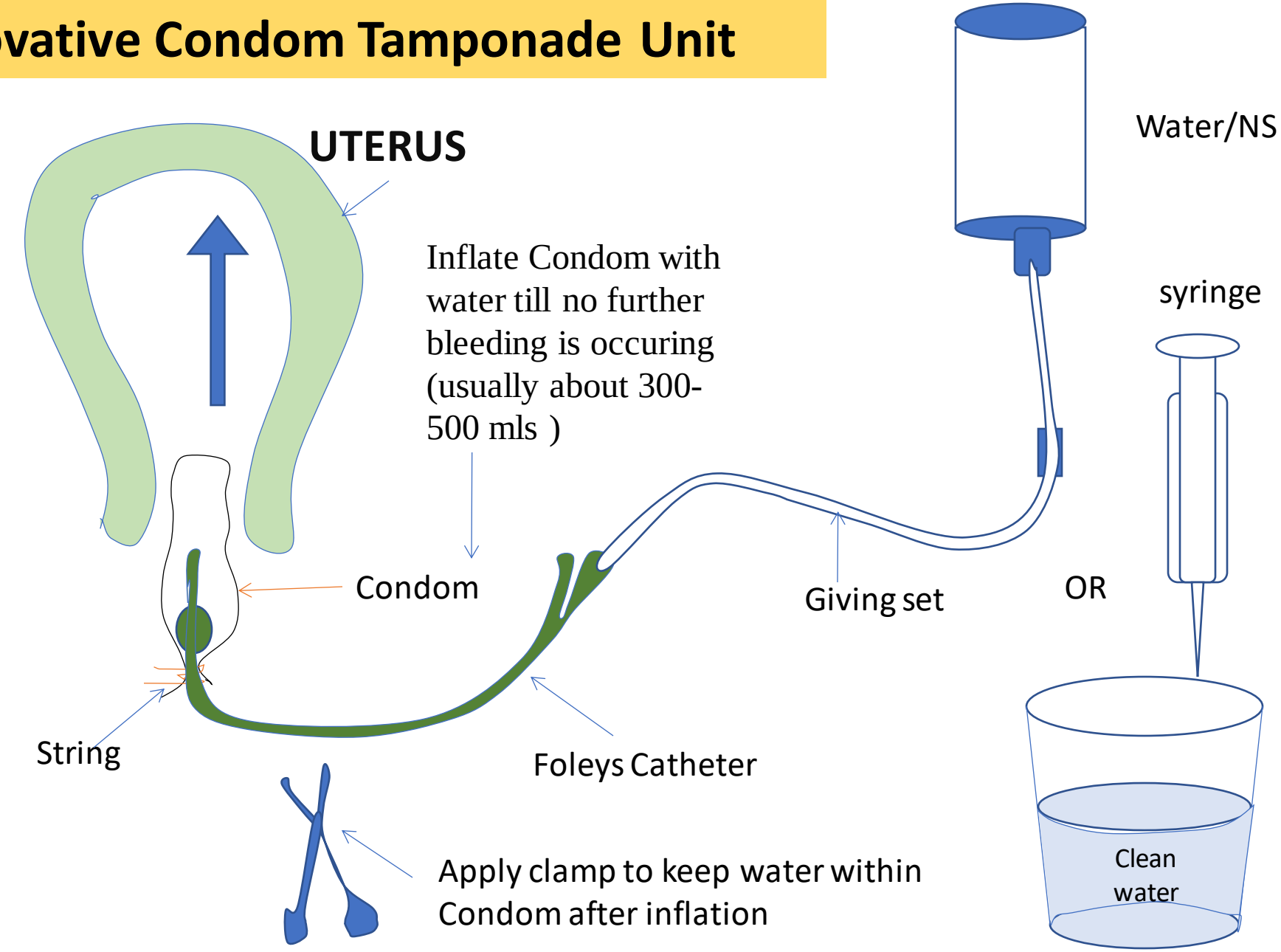
RÜSCH hydrostatic urological balloon

BT-Cath



Condom catheter

The Innovative Condom Tamponade Unit

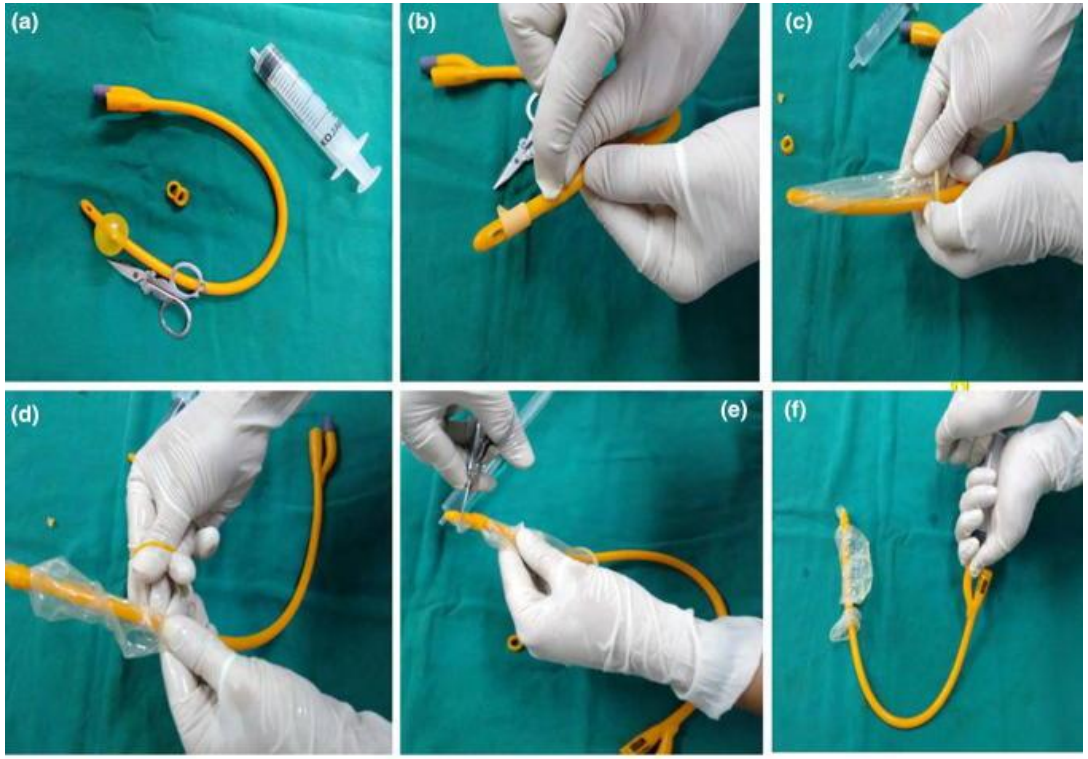


Q7. Please tell us about Indian innovations in PPH management.

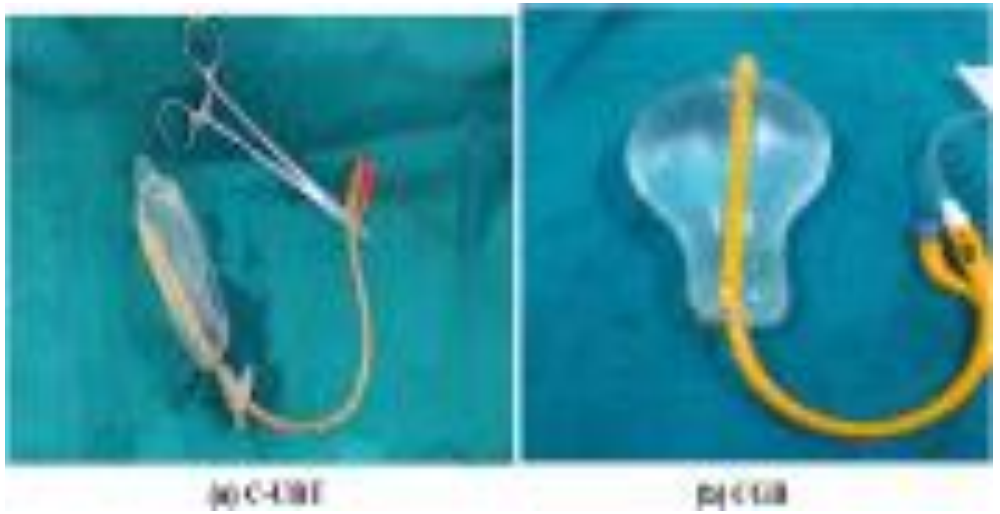
CG (CHHATTISGARH BALLON)

Cost = Rs 200

Dr Nalini Mishra



Making of CG Balloon



Panicker's Vacuum Suction Haemostatic Device for Treating PPH

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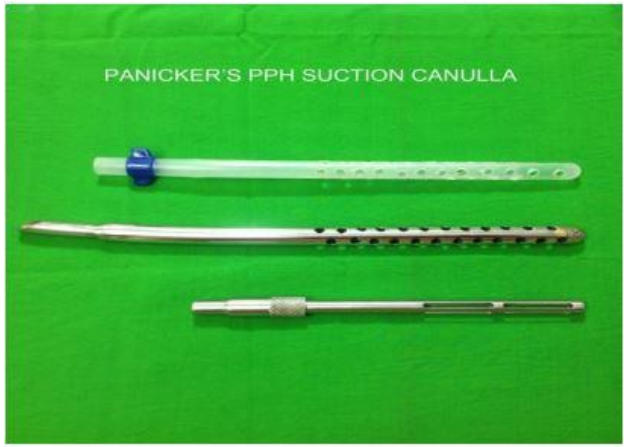
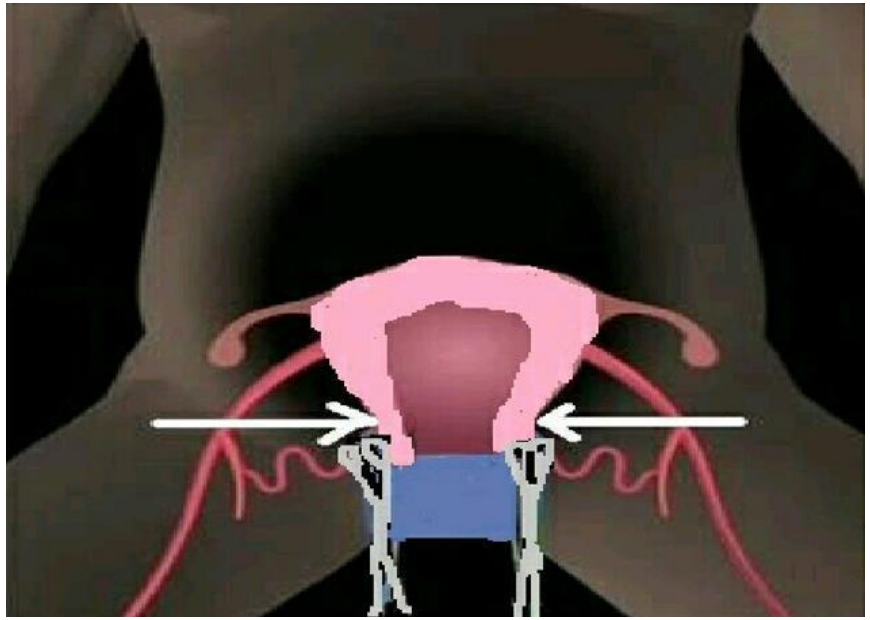


A Book "SAY GOODBYE TO PPH"—Life saving Inventions in Obstetrics and Gynaecology

Paracervical clamps for treatment of uncontrolled postpartum haemorrhage: a novel technique by Ramalingappa C. A., Durga Sireesha U.*, Shruthi B.

Paracervical clamps



Site of occlusion of uterine artery with paracervical clamps.

Principle Temporary occlusion of uterine arteries which represent the source of 90% of blood flowing to the uterus.

Application of paracervical clamps is a novel, effective, simple and minimally invasive surgical technique for avoiding excess blood loss in postpartum hemorrhage in those patients in whom medical treatment has failed

Prophylactic as well as therapeutic. Inexpensive, accessible and easy to use. Traumatic as well as atonic PPH can be managed.

Case 3

A 30 yrs old woman had her first delivery 20 days back (3.2 kg, healthy male baby). Mother and baby were discharged in good condition. She had irregular BPV for 5 days but today she had heavy bleeding PV along with passage of clots and admitted for management.

Q1. What are the common etiologies for secondary PPH?

Dr Sarika

Temporal classification

ACOG 2012
RCOG 2018

Primary

- Occuring within 24 hrs of delivery

Secondary

- Occuring after 24hrs to 12 wks postpartum

Ætiology

1- Placental causes

*Subinvolution of the placental site

*Retained products of conception

*Maladherent placenta

2- Infection : Endo/myometritis, infected or dehiscent scar

3- Trauma : Missed vaginal lacerations and hæmatomas

Alexander et al. 2002 , ACOG 2006 andRepke in James et al 2011

Ætiology

4- Pre-existing uterine disease

* Uterine fibroids

* Cervical neoplasm

* Cervical polyp

* Uterine arteriovenous fistulas

5- Coagulopathies

* Congenital hæmorrhagic disorders (von Willebrand's disease, carriers of hæmophilia A or B, factor XI deficiency)

* Use of anticoagulants (e.g. warfarin)

Alexander et al. 2002, ACOG 2006; Ambrose and Repke in James et al. 2011

6. Idiopathic in 1/3rd cases

Q2. How would you assess the patient?

Assessment

1- Detailed history including parity, mode of delivery, third stage and puerperal complications

2- Check pulse , blood pressure and temperature

3- Assess uterine size & cervical excitation and uterine tenderness

4- Exclude other sources of infection e.g. mastitis, urinary tract infection or septic pelvic thrombophlebitis

5- Assess clinical signs of blood loss

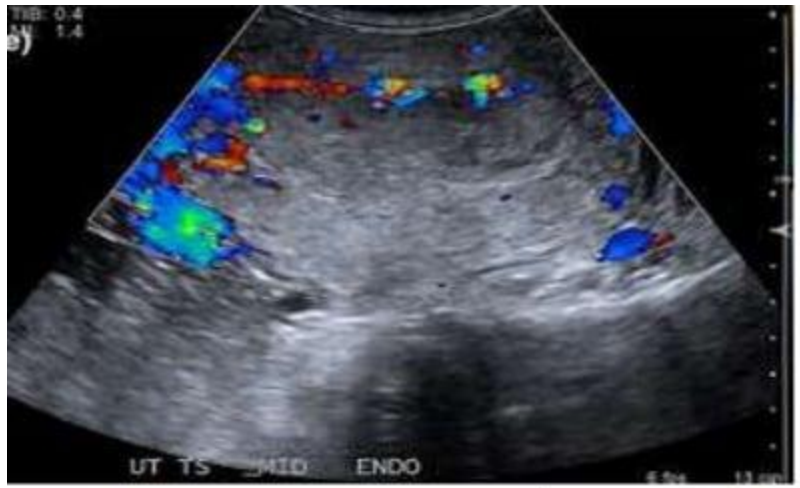
6- Speculum examination : Cervical dilatation, tears, infection , blood or remnant of tissues

Q3. What investigations would you like to ask for?

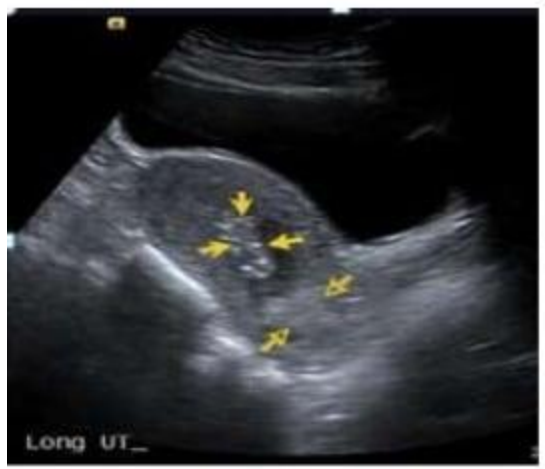
Dr Aparna

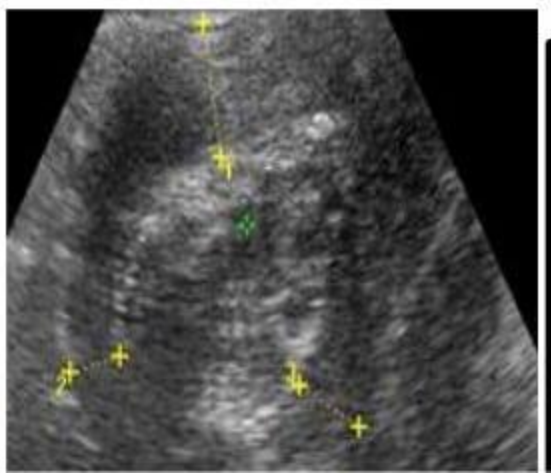
Investigations

1-U/S and Doppler study
2- CBC, C-RP and ß-hCG
3- Low vaginal, high vaginal, endocervical and rectal swabs.
4- Coagulation profile
5- Midstream urine specimen
6- Blood cultures if temperature ≥ 38°C



(e) Colour Doppler of retained products of conception on transverse view.





AUJUM (Australasian Journal of U/S in Medicine) Oine Omakwu, Talat Uppal, Fernando InfanteTorres Published 20 May 2016

Q4. What would be your line of management?

Stable condition

Conservative manager
*Monitor vital signs
*IV line
*Investigations: U/S &
*Antibiotics & ecbolii
*Surgical interference when indicated

Unstable condition

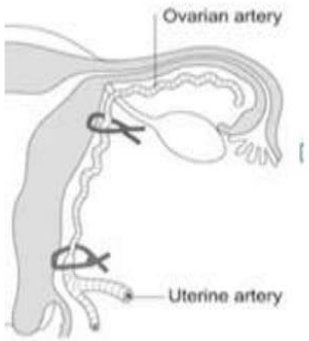
Treatment

Surgical management

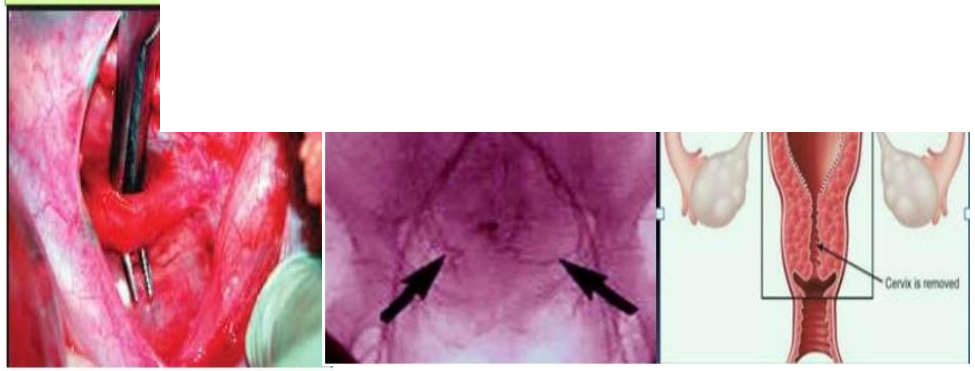
May include any of the following:
*Examination under anæsthesia
*Ultrasonic guided E&C (suction)
* Balloon tamponade (? CS scar)
*Ligation of internal iliac arteries
*Interventional radiology ?
* Hysterectomy (1-3%) of cases

Antibiotics
Ecbolics
Foly's catheter
E&C (suction)
Balloon
amponade
Devasculari-
ation
Hysterectomy

Uterine artery ligation



Hypoga
artery li



- **Q5. If USG suggestive of RPOC – how would you manage?**

Dr Shweta

U/S gu

*Administer antibioti
*Suction curettage is
*Avoid vigorous cure
perforation & Asherm
*Send tissue for histo
choriocarcinoma and
*If bleeding continue
consider further inter

King et al

Stabilization of marked bleeding

up to 1 litre of fresh frozen plasma (FFP) and 10 units of cryoprecipitate may be given empirically in the face of relentless bleeding , while awaiting the results of coagulation studies.

*Avoid hypothermia and hypotension

* Observations : pulse , BP, RR , O2 saturation, urine output

RCOG Green-top Guideline No. 52

on of marked eding

16 gouge
s Hartman's solution
until blood arrives

O negative blood
its for every 6 units
iter)
latelet < 50.000/cc

*Cryoprecipitate : If fibrinogen < 100 mg/dl

RCOG Green-top Guideline No. 52

- **Q6. If BPV is persistent in spite of evacuation – what could be possible reasons? And how would you manage ?**

Dr Sunita

- Check β-hCG levels
- Collect HPE of RPOC
- Think about Gestational Trophoblastic Neoplasia
- A-V malformation

Surgical management

May include any of the following:
*Examination under anæsthesia
*Ultrasonic guided E&C (suction)
* Balloon tamponade (? CS scar)
*Ligation of internal iliac arteries
*Interventional radiology ?
* Hysterectomy (1-3%) of cases

CHEMOTHERAPY if GTN

CASE 4

Q1.A 35 yrs G3P2L2 had low midcavity forceps delivery at 38 weeks POG at tertiary care center. One hour after delivery there was torrential hemorrhage observed by staff in PNC room . Her PR - 100/min, BP- 90/60mm Hg. Local examination – high vaginal tear apex not visualized. ANC period was unremarkable.

Q1.What would be your initial management (Which canula, number , fluid type)

Dr Sarika

Management of massive obstetric hemorrhage **(ORDER)**

- **Organization**
- **Resuscitation**
- **Defective Blood Coagulation**
- **Evaluation of response**
- **Remedy the cause of bleeding**

WHO recommendations for the prevention and treatment of postpartum haemorrhage (2012)

Q2.How would you proceed for definitive treatment ?

Dr Neelam

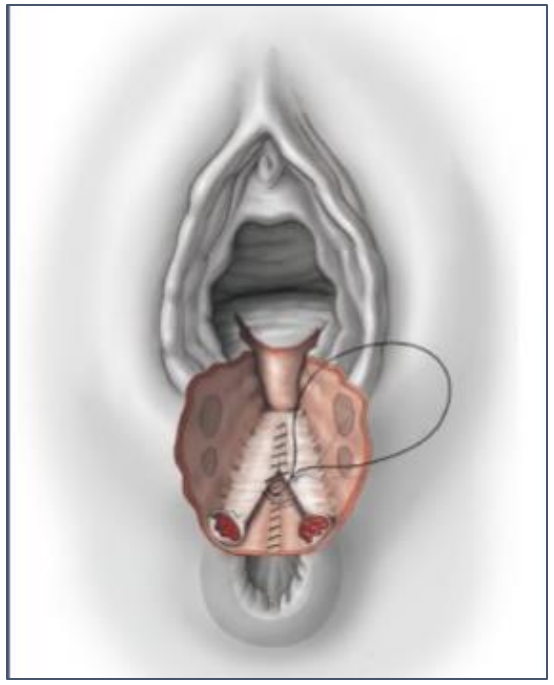
- Shift the patient to OT
- Examine under good light
- If upper limit is seen— stitch the tear.

- If upper limit of tear is not visualized –
- Laparotomy under anaesthesia
- Stitch the tear

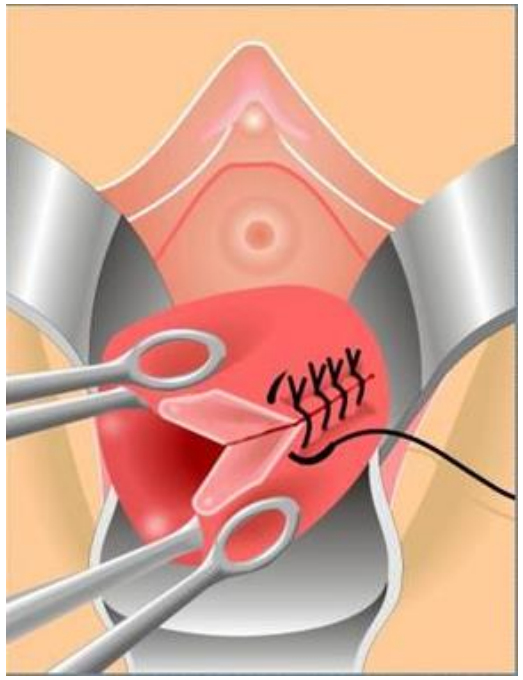
Trauma

Lacerations

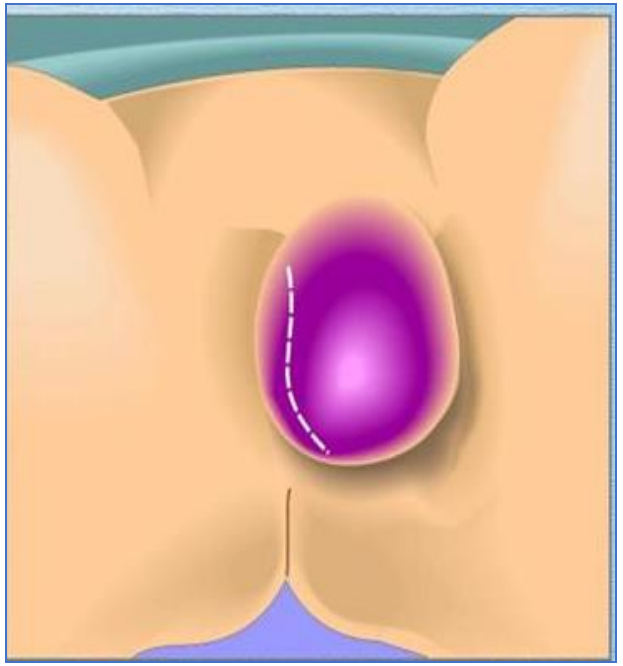
Hematoma



Perineal Tear



Cervical Laceration

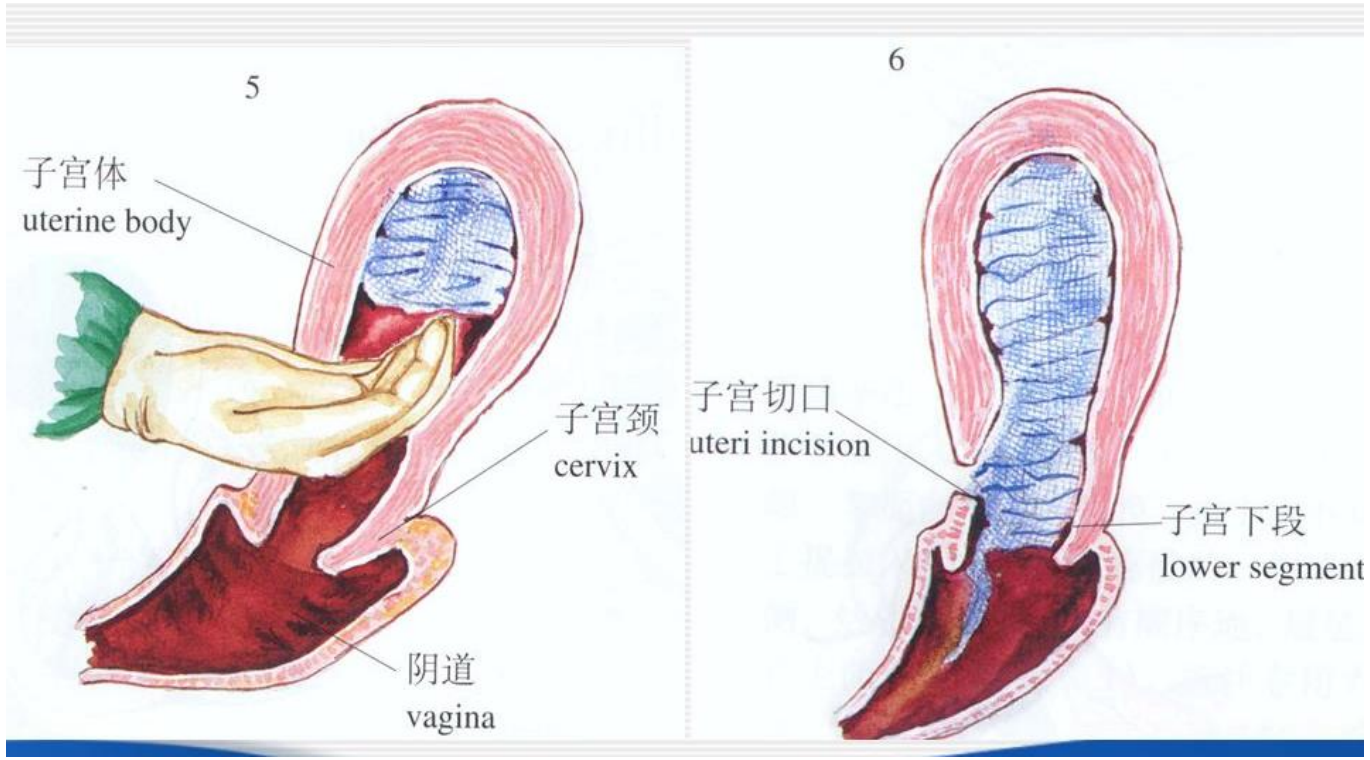


Vulval Haematoma

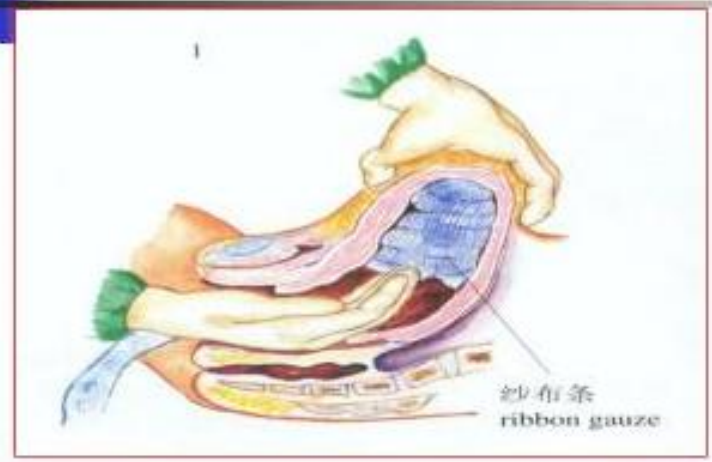
Q3.If OT is busy what could be done to prevent hemorrhagic shock?

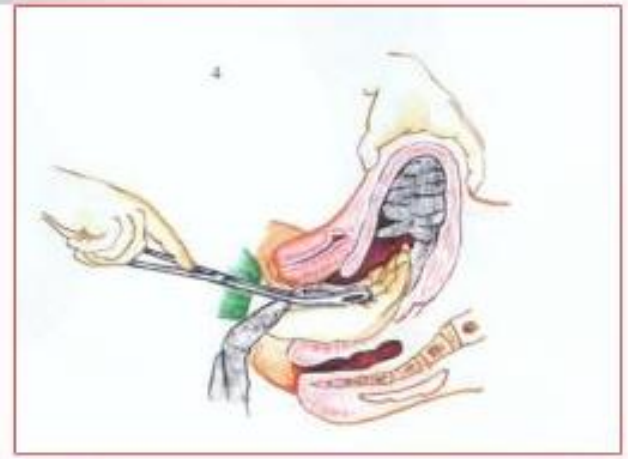
Dr Aparna

TIGHT VAGINAL PACKING



Uterine packing





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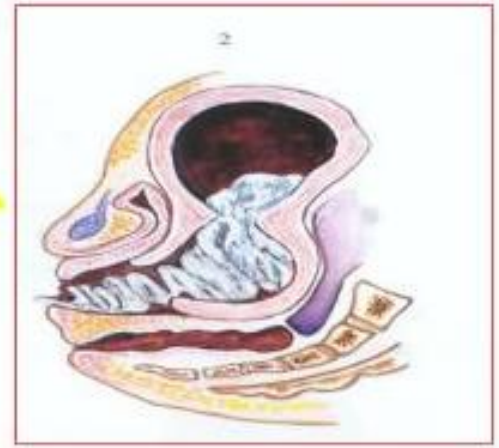
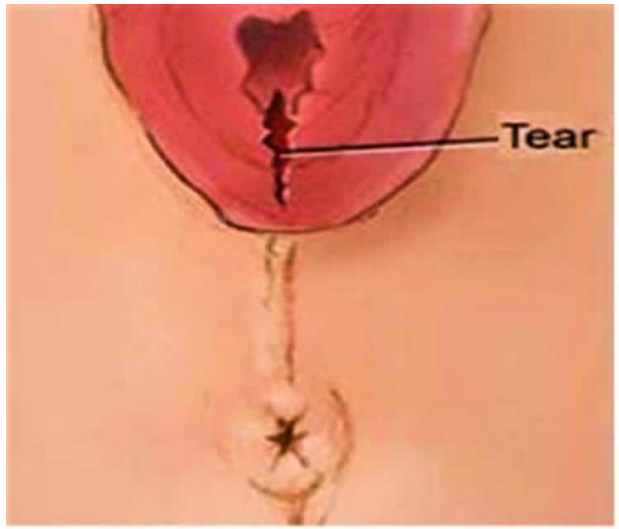


Q4. What suture material and technique do you use for repair of lower segment tear?

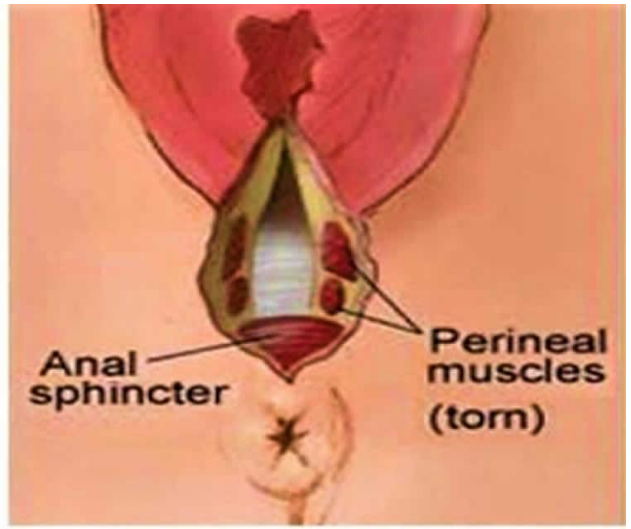
Dr Richa

- VICRYL 1

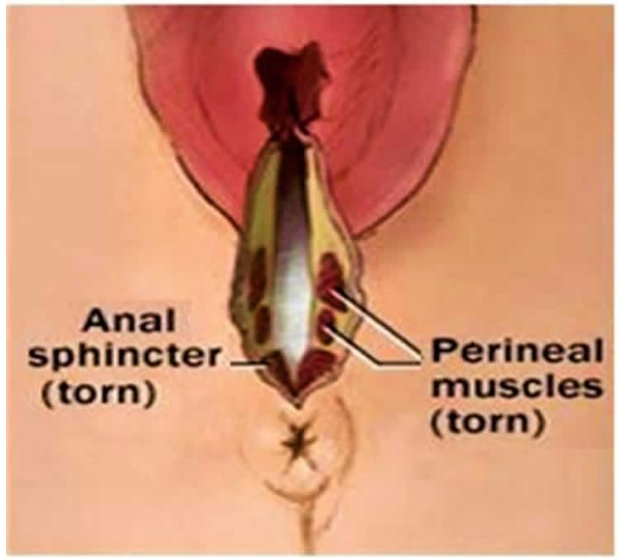
- CONTINUOUS SUTURING from lower towards upper end



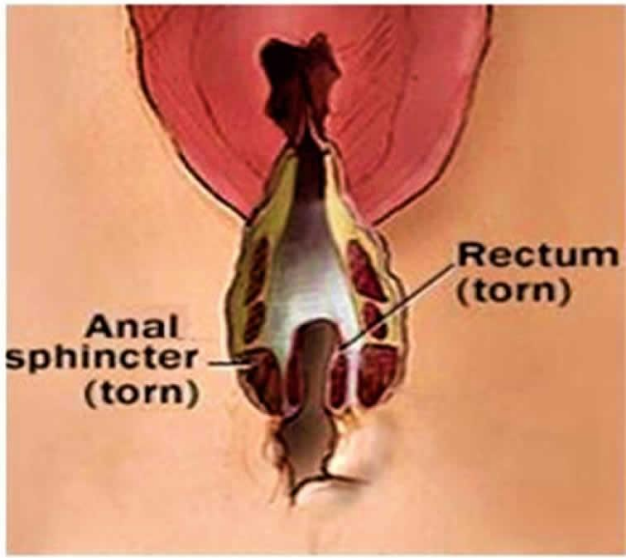
First Degree Perineal Tear



Second Degree Perineal Tear

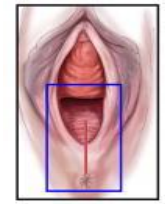


Third Degree perineal tear



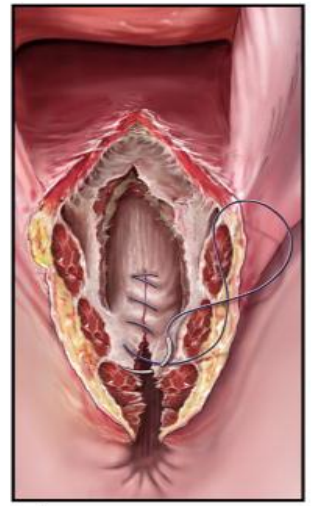
Fourth Degree Perineal Tear

Repair of Lacerated Perineum

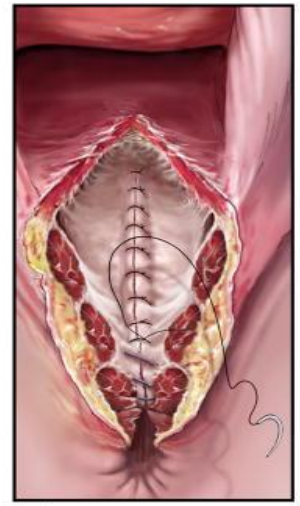


Orientation to surgical illustrations

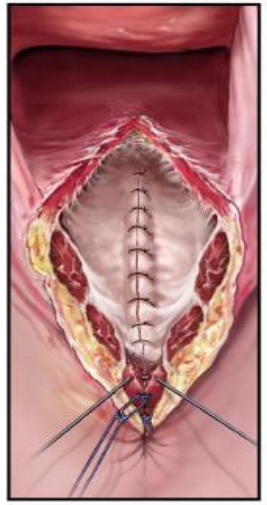
1 Lacerated perineum before repair



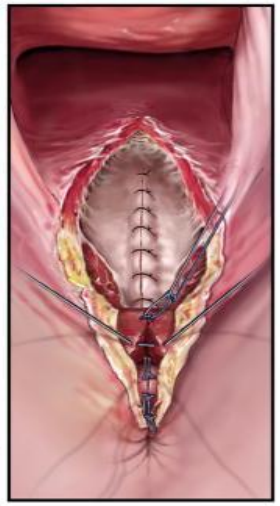
2 Closure of rectal mucosa with running suture



3 Closure of endo-pelvic fascia with interrupted suture

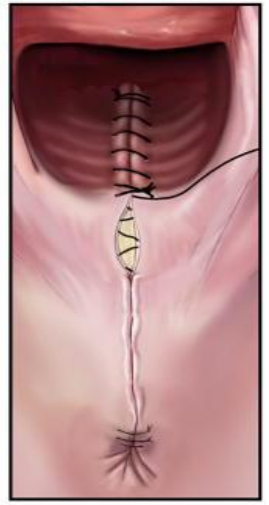


4 Closure of anal sphincter with interrupted suture



5 Closure of perineal muscles with interrupted suture

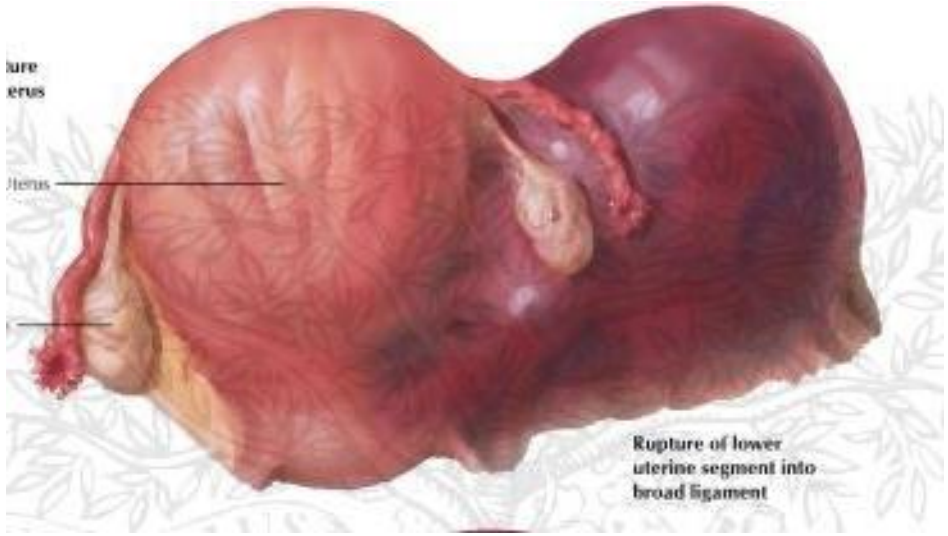
6 Subcutaneous tissue of perineum re-approximated



7 Subcuticular closure of skin

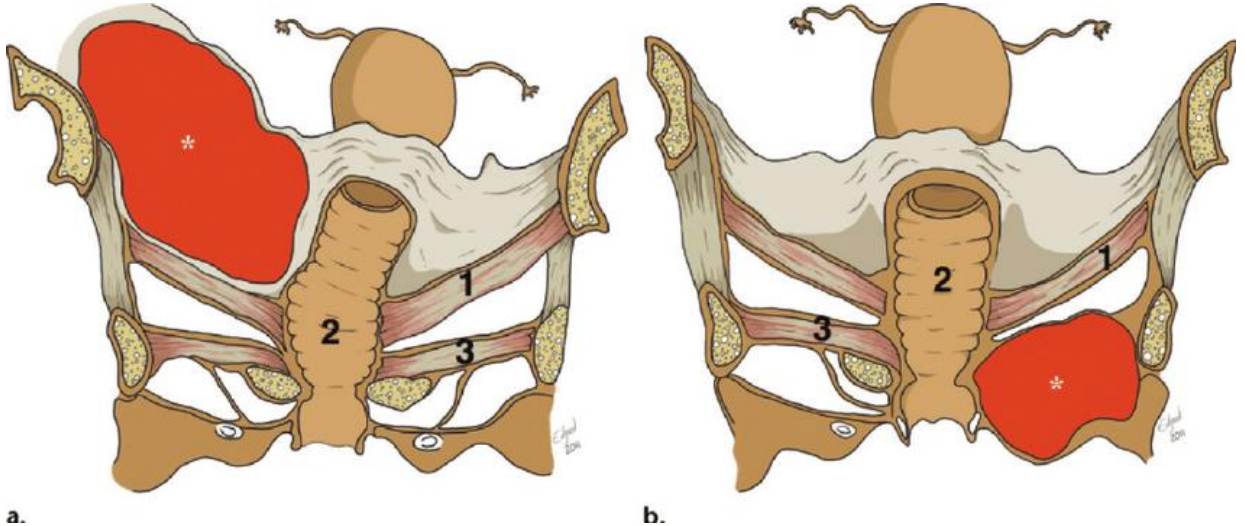
Q5. If intraoperatively right sided broad ligament hematoma and bluish discoloration of retroperitoneum also present how do you manage?

Dr Shweta



- If the haematoma is not increasing in size, no need for haematoma drainage.

- If the size of haematoma is increasing – haematoma drainage should be done.
- Secure the bleeders .
- Internal iliac artery ligation to be done.



SUPRA-LEVATOR HAEMATOMA

INFRA-LEVATOR HAEMATOMA

Q6.Is there role of Internal iliac artery ligation ?

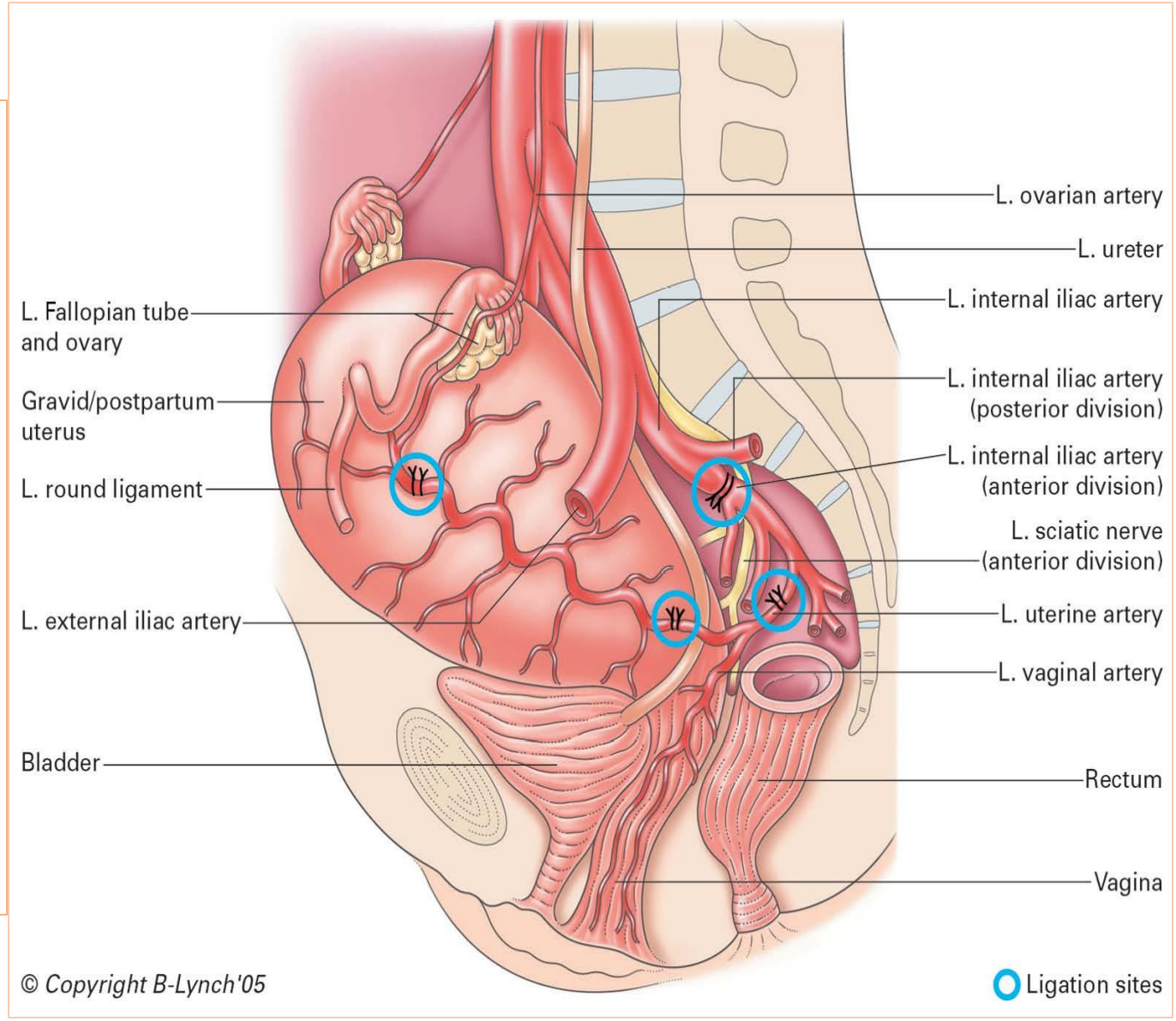
Dr Sunita

- Yes.
- Bilateral internal iliac artery ligation should be done. If conservative measures fail to control haemorrhage

Initiate Surgical Haemostasis
SOONER RATHER THAN LATER

Stepwise Uterine Devascularization

- Uterine arteries
- Tubal branch of ovarian artery
- Internal iliac artery (Preferably anterior division)



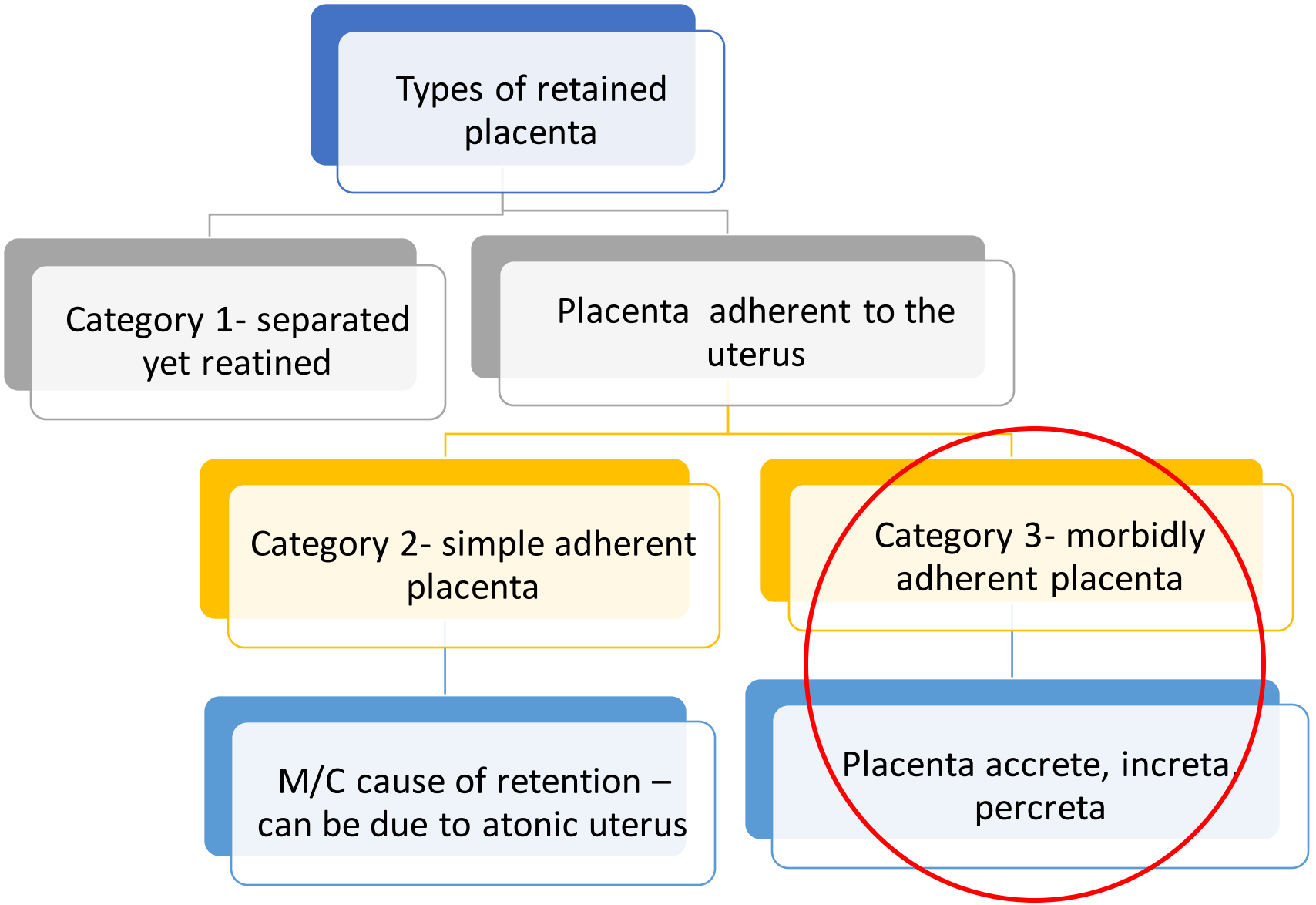
Case 5

- A 28 yr Old G3P1L1A1 at 38 weeks POG with Previous LSCS taken up for emergency LSCS for NPOL under general anaesthesia . Intraoperatively placenta accreta is diagnosed .Placenta is implanted over right lateral wall of uterus and going in lower segment of uterus and multiple tortious vessels are going towards right broad ligament? Placenta is not coming out and she is keeps on loosing blood.

Q1.What would be your further line of action in this case?

Dr Sarika

Tissue


Types of retained placenta
Category 1- separated yet reatined
Placenta adherent to the uterus
Category 2- simple adherent placenta
Category 3- morbidly adherent placenta
M/C cause of retention – can be due to atonic uterus
Placenta accrete, increta, percreta

Q2.What would be further surgical plan in this case and who will give consent for hysterectomy?

Dr Neelam

Conservative Surgical Interventions

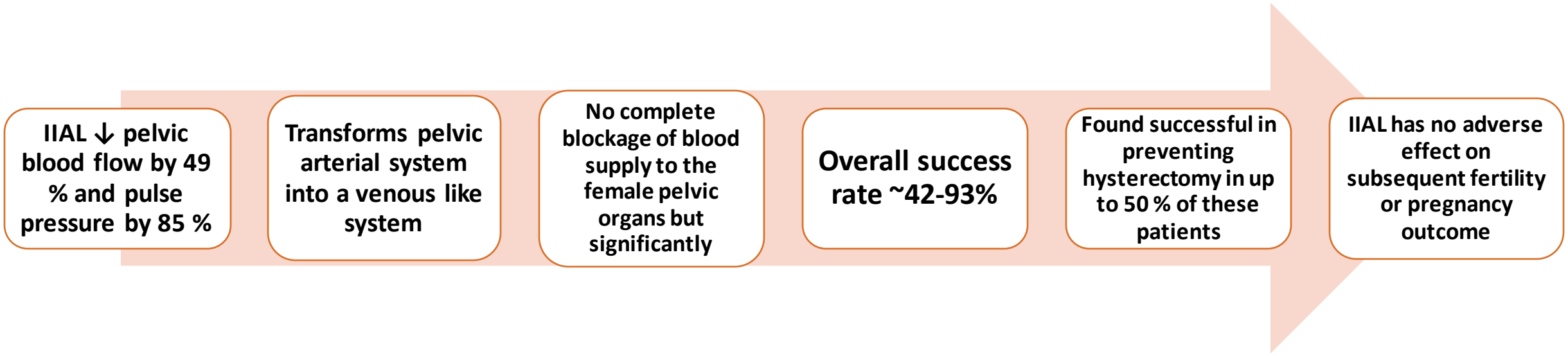
1. **B/l uterine art ligation**

Success rates of this procedure vary from 80- 96% .

Advantage of speed, less expertise needed & low complication rate

2. **Internal iliac artery ligation**

Ant division of IA artery is ligated 5cm from common iliac artery to ensure that post div is not included in ligature

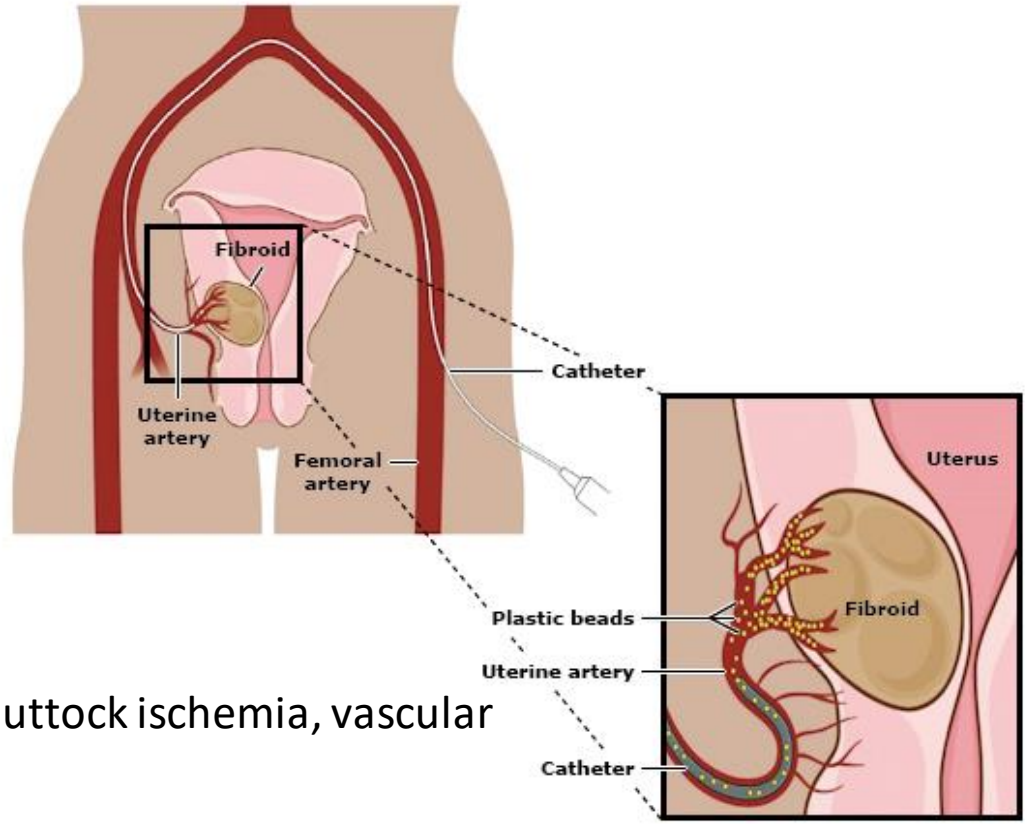


Uterine Artery Embolisation

- Hemodynamically and hemostatically stable
- Personnel and facilities are readily available

Technique of embolization

- Gelfoam
- PVA particles

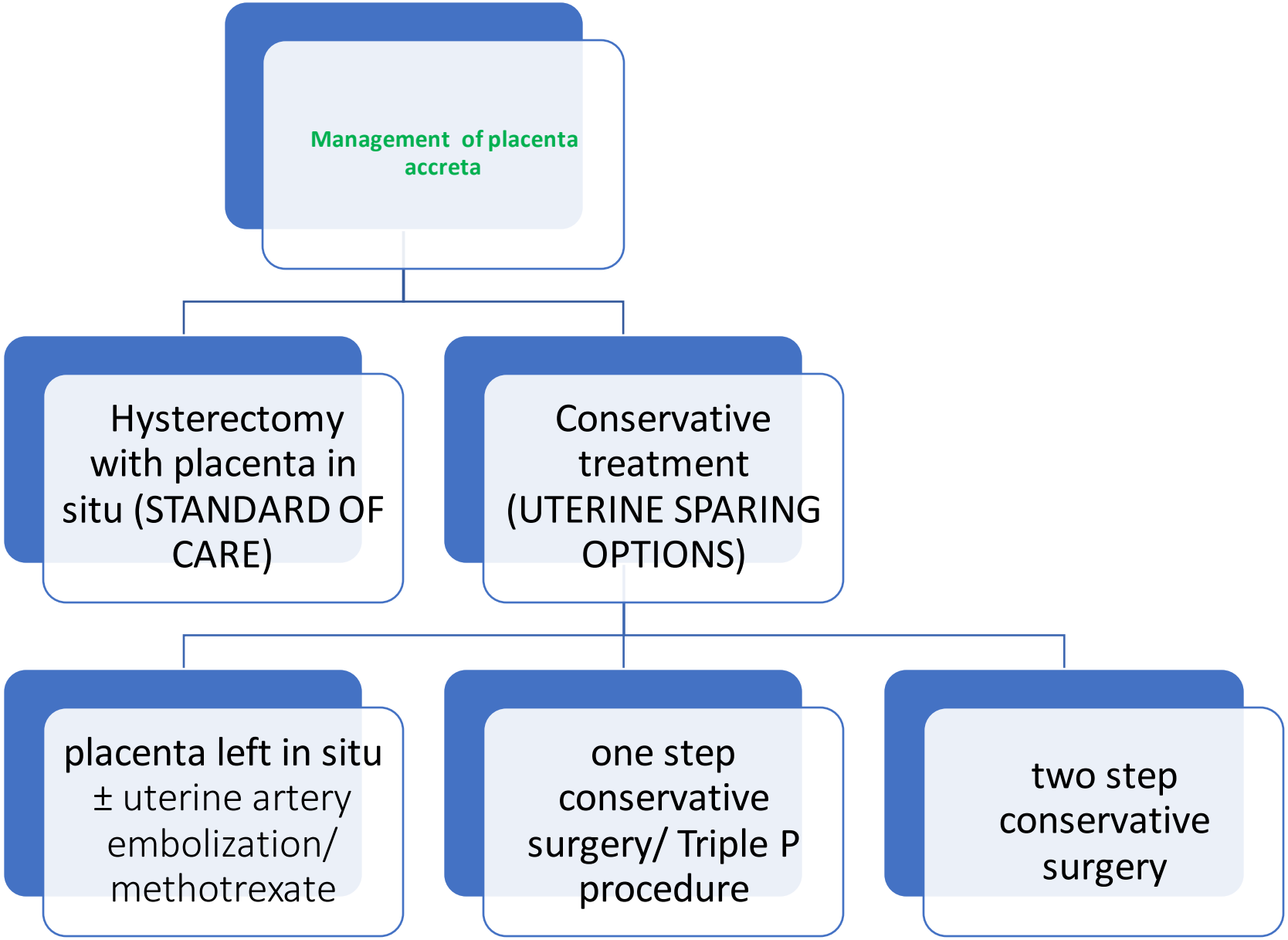


- Success rate- 85-95%
- Post embolization fever is the most common complication; other- buttock ischemia, vascular perforation, uterine ischemia and necrosis, and infection

Q3.What are deciding factors for hysterectomy to be done or not in accreta cases and which type of hystectomy could be preferred in this case?

Q4.If the facility for embolization not available then what next could be done and role of delayed hystectomy .

Q5.But she is not willing for hystectomy –then how would you do follow-up , rate of placental resorption and chances of secondary PPH.

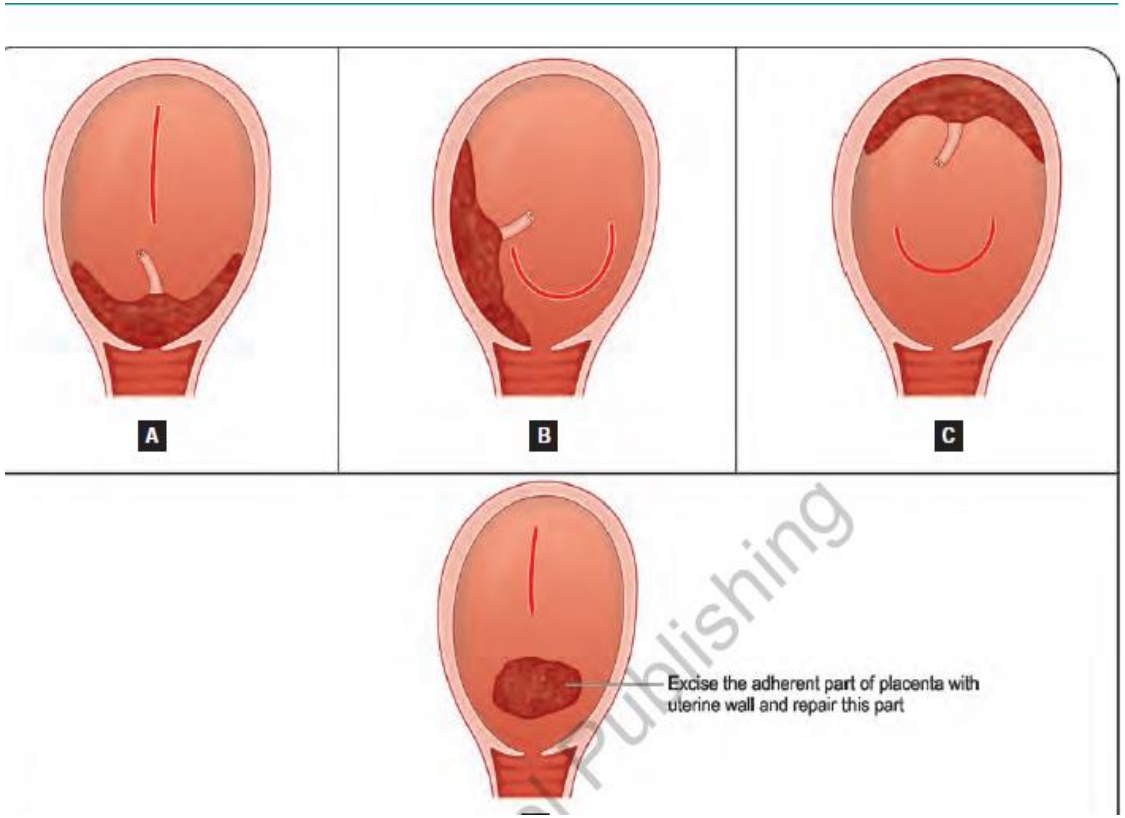

Management of placenta accreta
Hysterectomy with placenta in situ (STANDARD OF CARE)
Conservative treatment (UTERINE SPARING OPTIONS)
placenta left in situ ± uterine artery embolization/ methotrexate
one step conservative surgery/ Triple P procedure
two step conservative surgery

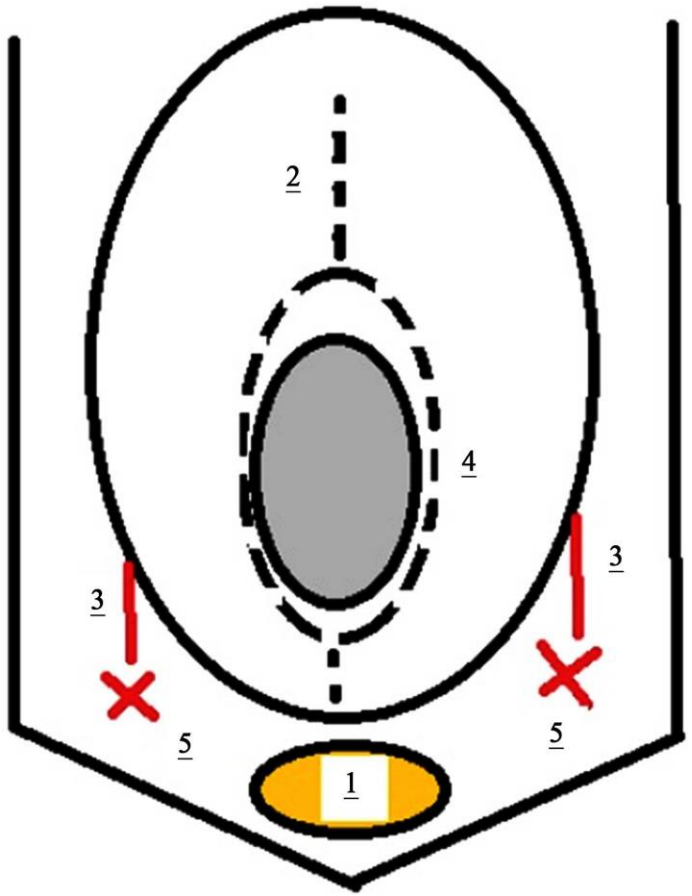
Triple P procedure-

The procedure is basically aimed to avoid separating the morbidly adherent placenta from its bed and restore the uterine anatomy for subsequent pregnancy.This procedure is described by- Chandrahan E , et al in year 2012

Triple P stands for

1. Perioperative placental localization
2. Pelvic devascularisation
3. Placental non sepration with excision of myometrium





- Illustrating figure shows five steps of surgery
  1-Dissection of the bladder downward beneath the cervix.
- 2-Upper segment incision to deliver the fetus.
- 3-Bilateral uterine artery ligation.
- 4-elliptical incision to involve the placenta (then closure not illustrated in figure).
- 5- Bilateral internal iliac artery ligation.
- Courtsey to - Wahab, A.S.A.H.A. and Yaseen, M.M. (2018)

1. Long term follow-up:

- conservative treatment should only be considered in cases with desire for preservation of fertility and hysterectomy remains the standard of care
- likely under-reporting of complications in cases of attempted conservative management and hence the outcomes may not be as favourable as published
- various issues are associated with retained placenta on conservative management like irregular bleeding per vaginum , sepsis, disseminated intravascular coagulation ,discharge per vaginum ,pain in lower abdomen ,sometime shock and need of emergency laparotomy
- **The largest series on conservative management of placenta accreta is from France where a retrospective multicentric study included all women treated conservatively for placenta accreta from 1993 to 2007 .**
- The study showed a **success rate of 78.4% in preserving the uterus**; however 55% women in this study had a diagnosis of placenta accreta based on failure of placental separation with controlled cord traction without any antenatal radiological (USG/ MRI) evidence of same. Also, the **severe maternal morbidity rate was 6%** and the median time until delayed hysterectomy was 22 weeks which suggested that women continued to be at risk of torrential haemorrhage or severe infection for months after delivery. However, the same authors, in another study concluded that successful conservative treatment for placenta accreta does not appear to compromise subsequent fertility or obstetric outcome; but the risk of placenta accreta recurrence is high

Singh et al. Placenta Basic to Accreta .2021

Q6.Suppose if it is a case of focal accreta – how would you manage?

Remove the major chunk of placenta

Take hemostatic suture at focal accrete

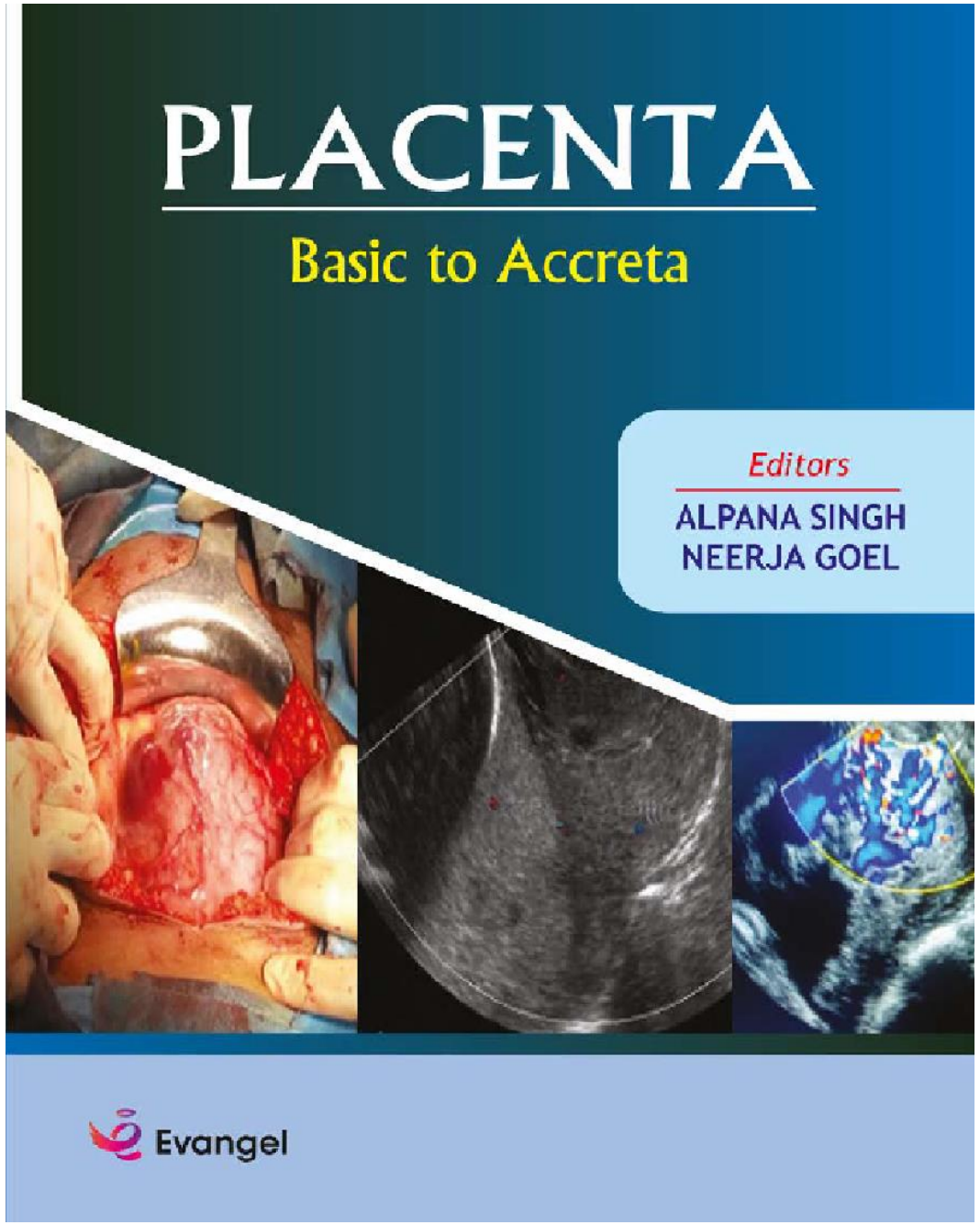
Give oxytocics

If still bleeding then Balloon tamponade and even Brace sutures

Broad spectrum Antibiotics

Dr Sunita

- Remove the major chunk of placenta
- Take hemostatic suture at focal accrete
- Give oxytocics
- If still bleeding then Balloon tamponade and even Brace sutures
- Broad spectrum Antibiotics



ABOUT THE BOOK

Placenta is the first organ system of human body that forms the basis of life. Out of many conditions of placenta , Accreta with its all variants is worst nightmare for an obstetrician.

This book systematically describes about placenta right from anatomy, embryology, and physiology to previa, abruption, and accreta. The description is comprehensive and up-to-date.

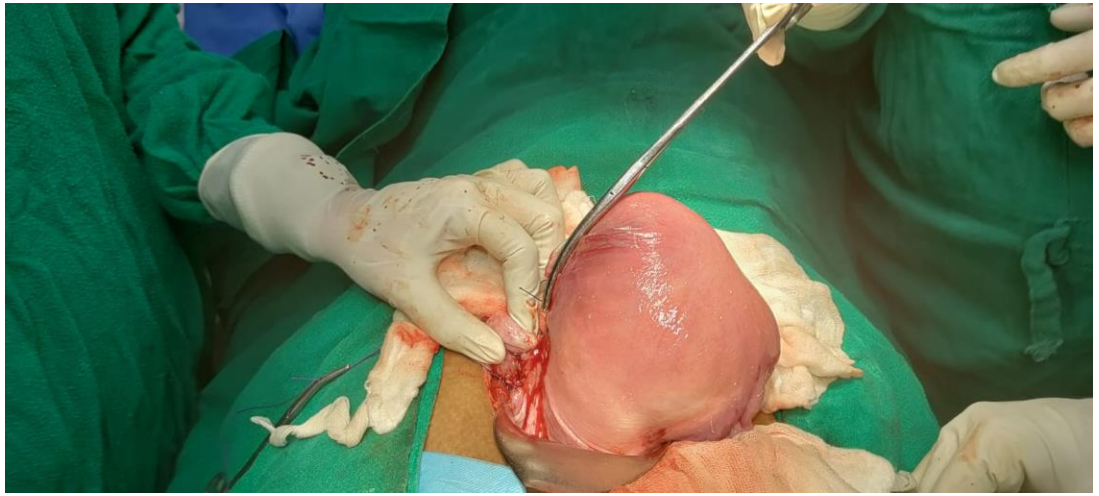
Provides all information and consolidated update about Accreta at one place in rapidly changing clinical scenerio.

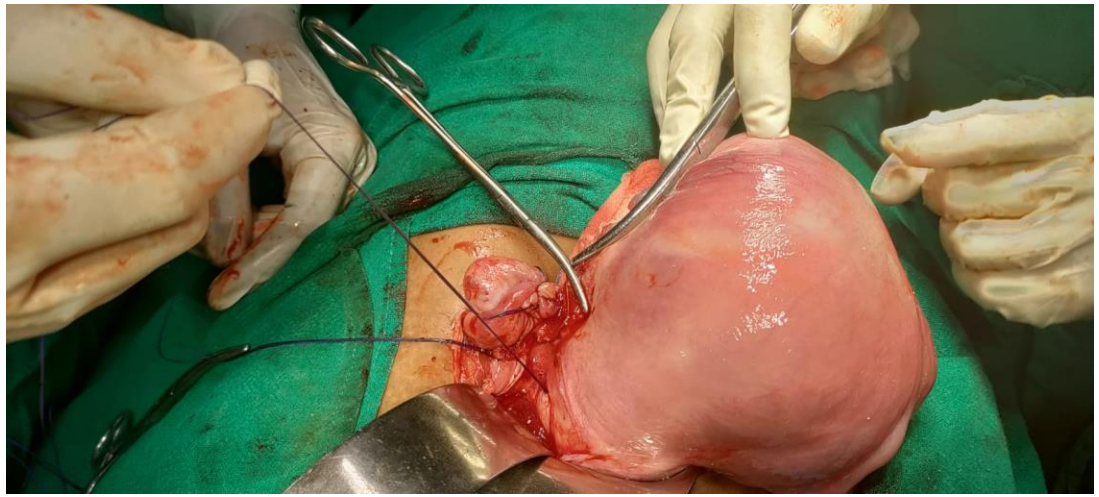
This book will be handy reference for residents, medical teachers and practitioners.

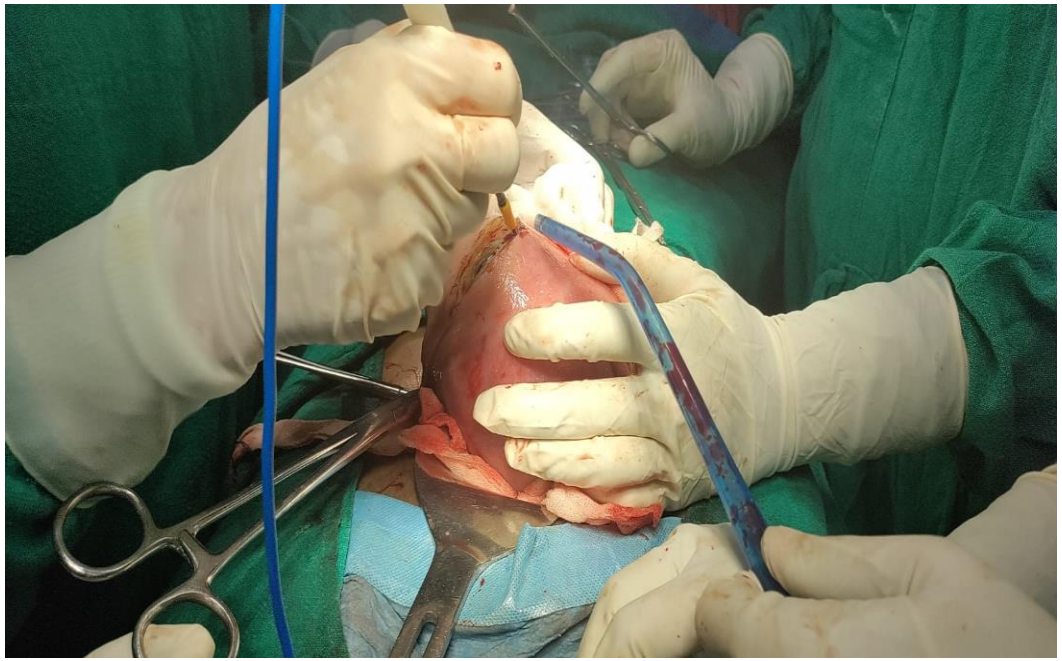
Yesterday's Story

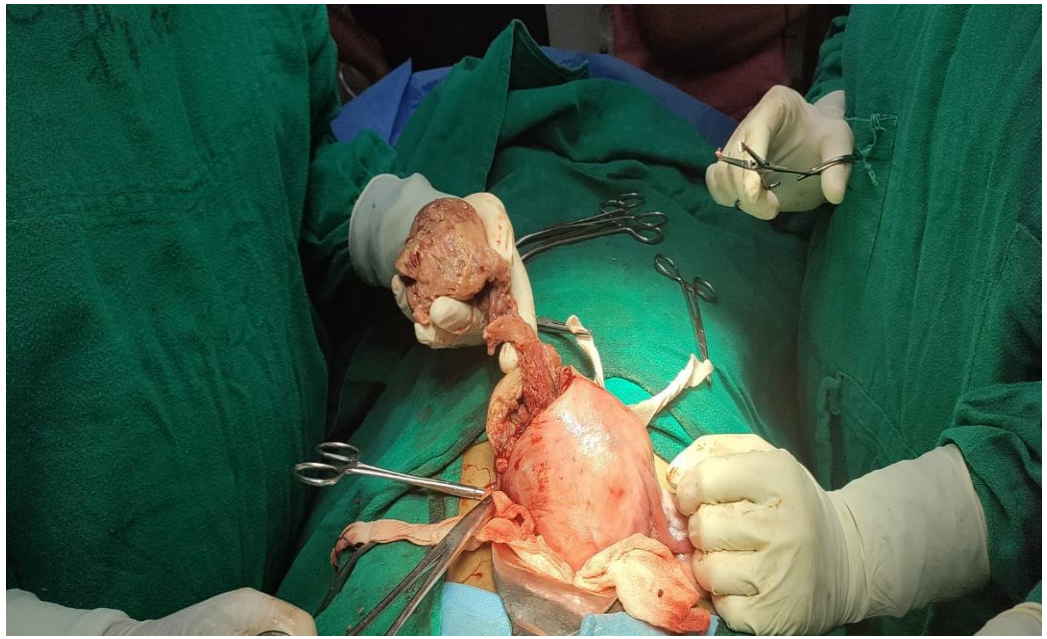
23 yr P1L1A1 at Day 1 postpartum with retained placenta after home breech vaginal delivary. MRP tried but failed. MRI s/o placenta incerta at right cornua.Developed features of sepsis , hence planned for

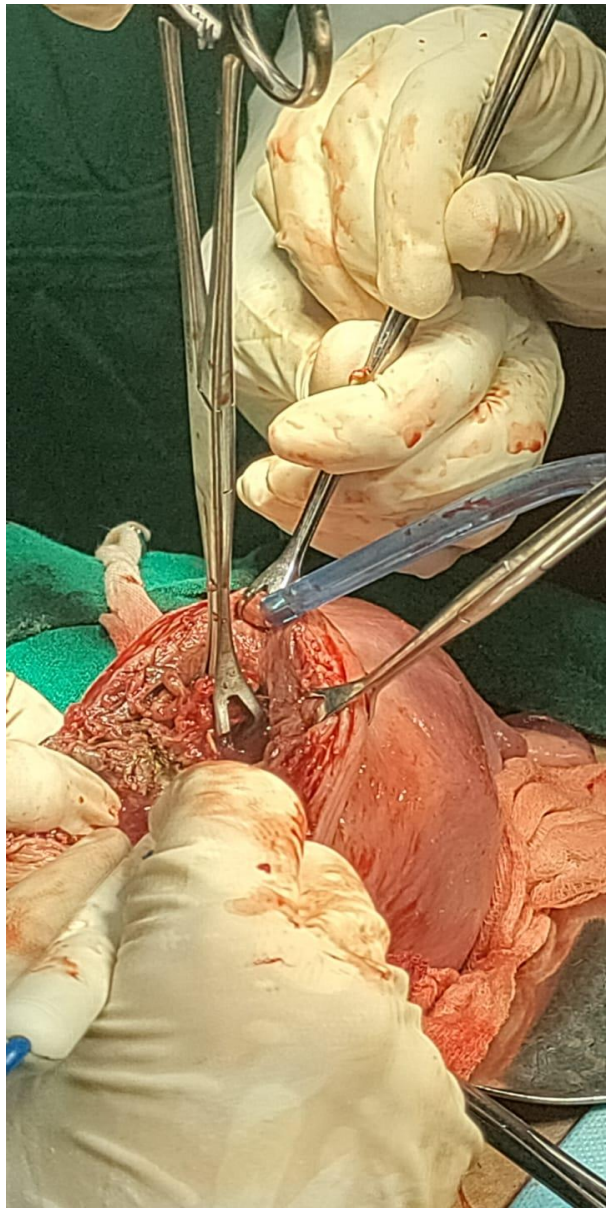
Uterine conservative surgery- Myometrial excision along with placenta along with B/L uterine artery ligation and repair of uterus.

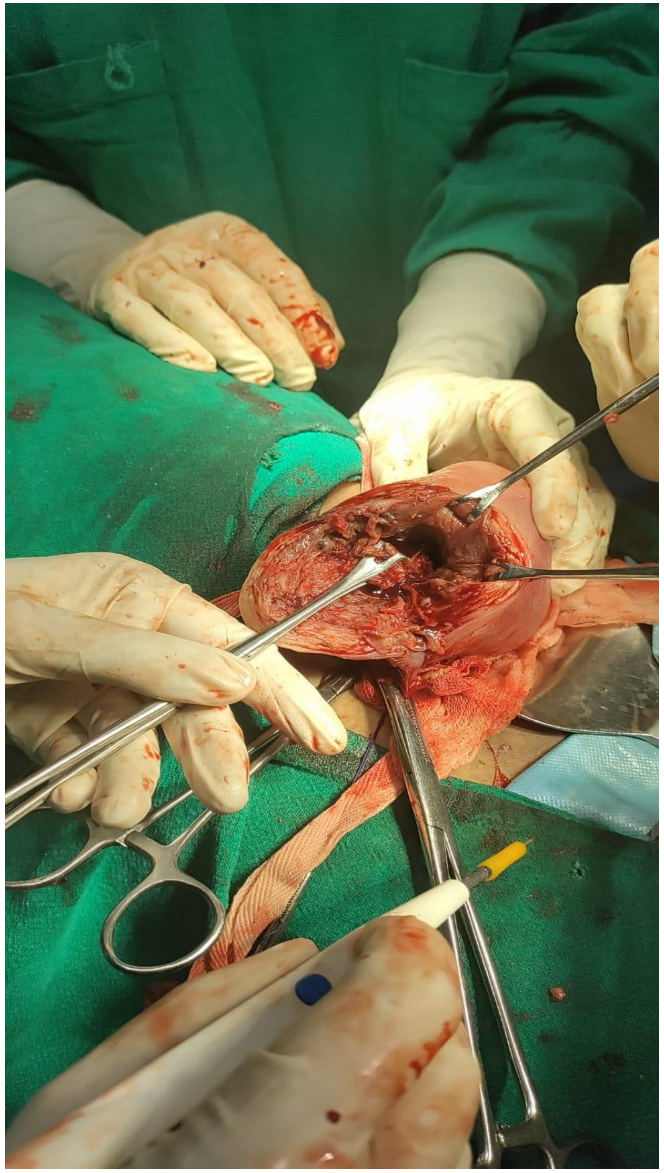


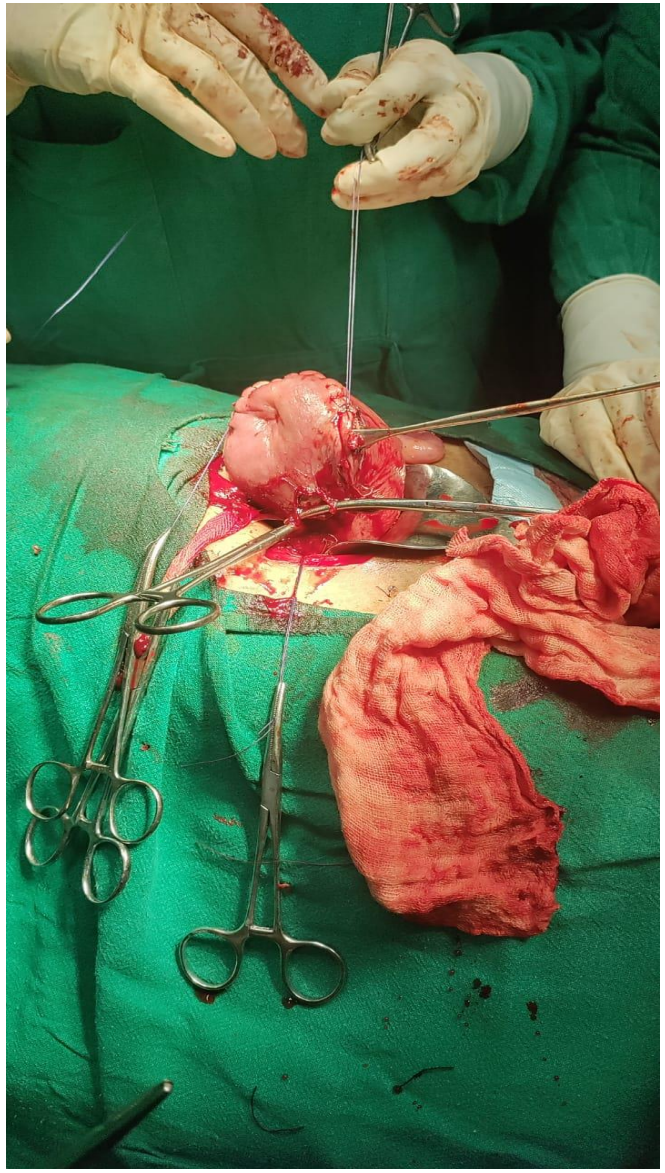












Case 6

- COVID POSITIVE CASE WITH PPH
- DISCUSS PPH MANAGEMENT IN COVID ERA

Surgical management

Indicated if excessive or continuing bleeding irrespective of ultrasonic finding (after excluding coagulopathy)

RCOG Green-top Guidelines no. 52

- **Resuscitation, monitoring, investigation and treatment should occur SIMULTANEOUSLY**

Major obstetric haemorrhage

Blood loss > 1000 ml

Continuing major obstetric haemorrhage or clinical shock

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Call for help

Senior midwife/obstetrician and anaesthetist

Alert haematologist

Alert blood transfusion laboratory

Alert consultant obstetrician on-call

Resuscitation

Airway

Breathing

Circulation

Oxygen mask (15 litres)

Fluid balance (2 litres Hartmann's, 1.5 litres colloid)

Blood transfusion (O RhD negative or group-specific blood)

Blood products (FFP, PLT, cryoprecipitate, factor VIIa)

Keep patient warm

Communication

Basic measures for MINOR PPH (blood loss 500–1000 ml):

- Alert the midwife-in-charge
- Alert first-line obstetric and anaesthetic staff trained in the management of PPH

Full protocol for MAJOR PPH (blood loss more than 1000 ml OR clinical shock):

- Call experienced midwife (in addition to midwife in charge)
- Call senior obstetric consultant
- Call senior anaesthetic consultant
- Alert consultant clinical haematologist on call
- Alert blood transfusion laboratory
- Call porters for delivery of specimens/blood
- Alert one member of the team to record events, fluids, drugs and vital signs

Stabilization of marked bleeding

Rfactor VIIa suggested dose is
90 ug /kg which may be repeated in the absence of clinical response within 15–30 minutes

Before giving rFactor VII be sure that :
Fibrinogen > 100 mg/dl
*Platelets > 20 .000/cc
to achieve good clinical response

Ætiology

1-Placental causes
2-Infection
3-Trauma
4-Uterine disease
5-Coagulopathies
6-Idiopathic (1/3rd of cases)

Significant causes of 2ry PPH

1- Retained product of conception
2- Endometritis
3- Subinvolution
4- Idiopathic

Assessment
1- ABC
2-History
3-Pulse, BP, Temp. , RR
4- S&S
5- Uterine size
6- Blood loss

Stable condition

Conservative management
*Monitor vital signs
*IV line
*Investigations: U/S & lab.
*Antibiotics & ecboliics
*Surgical interference when indicated

Uterotonics

Uterotonic drugs	Dosage	Comments
Oxytocin	10-20 units in 500 ml of NS @ 40-60 drop/min	Never give i/v bolus
Carbetocin (synthetic analogue)	100mcg i/v	More effective than oxytocin
Ergometrine/ methylergometrine	0.2 mg im/iv, (max 1gm in 24 hr)	Transient rise in BP (C/I in PE, Eclampsia, rh negative pregnancy, heart disease)
15 methyl PGF2α (carboprost)	250 mcg I/M or myometrial and repeated every 15 min, max 8 doses	May cause diarrhea, vomiting, fever C/I in asthmatics, Relative C/I – renal, cardiac and liver ds
Misoprostol (PGE1)	800 mcg S/L	Cause pyrexia
Tranexamic acid	1gm i/v	Recommended if above drugs fails to control bleeding

Oxytocin (10 IU, IV/IM) is the recommended uterotonic- in both vaginal and caesarian delivery **(Cochrane, 2013)**

Oxytocin unavailable- -

- inj **methylergometrine**
- **Syntometrine**- fixed drug combination of oxytocin and ergometrine
- **oral misoprostol (600 µg)**
- inj PGF2α (carboprost, Hembate)
- carbocetin -100mcg I/V over 1min

- **Fetus**- Improves iron status up to 6 months of age
  - Neurodevelopmental outcomes in male preterm infants
  - Decreases risk of- intraventricular haemorrhage, necrotizing enterocolitis, late-onset sepsis

  Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes

  WHO Guideline 2014
- Additional 30% blood volume to newborn

  RCOG 2018

- It should be given
  - when hematocrit is adequate
  - platelet count is >50x10^9/l
  - fibrinogen >1 gm/l
  - pH>7.2 and temperature >34^0C
- Dose is 90 µg/Kg IV over 3-5 minutes, repeated within 15-30 minutes only if necessary. No clear consensus on efficacy.


THANK
YOU