POST PARTUM HAEMORRHAGE

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POST PARTUM HAEMORRHAGE

DEFINITION: -

•**Any amount of bleeding from or into genital tract following birth of baby upto the end of the puerperium which adversly affects the general condition of the patient evidented by rise in pulse rate and falling in blood pressure is called post partum haemorrhage.**

•**In 1990 WHO defined it quantitatively as: any postpartum blood loss from genital tract in excess of 500 ml, after vaginal delivery or greater than 1000 ml after caesarean delivery , in first 24 hr.**

•**ACOG advocates the defination of either a 10% change in the haematocrit in between the antenatal and post partum period or need for blood transfusion.**

TYPES OF PPH

1.) PRIMARY- haemorrhage occurs within 24 hrs. following the birth of the baby. In majority haemorrhage occurs within 2 hrs. following delivery.

- **Third Stage Haemorrhage- Bleeding occurs before expulsion of placenta.**
- **Trur Post Partum Haemorrhage- Bleeding occurs sbsequent to the expulsion of placenta.**

2.)SECONDARY-Haemorrhage occcurs beyond 24 hrs and within puerperium, also called delayed or late puerperal haemorrhage.

GRADES OF PPH

Amount	Grades
500-1000 ml	Minor (compensated)
1000-1500 ml	Major
>1500	Significant Obsterics Haemorrhage

MECHANISM OF HAEMOSTASIS AFTER DELIVERY

- Uterine contraction & retraction
- Platelet aggregation → clot formation
- Myotamponade

Causes of Primary PPH

Uterine Atony

Retained Placenta

Trauma to genital tract

Coagulation disorders

1.PREDISPOSING FACTORS FOR ATONIC PPH

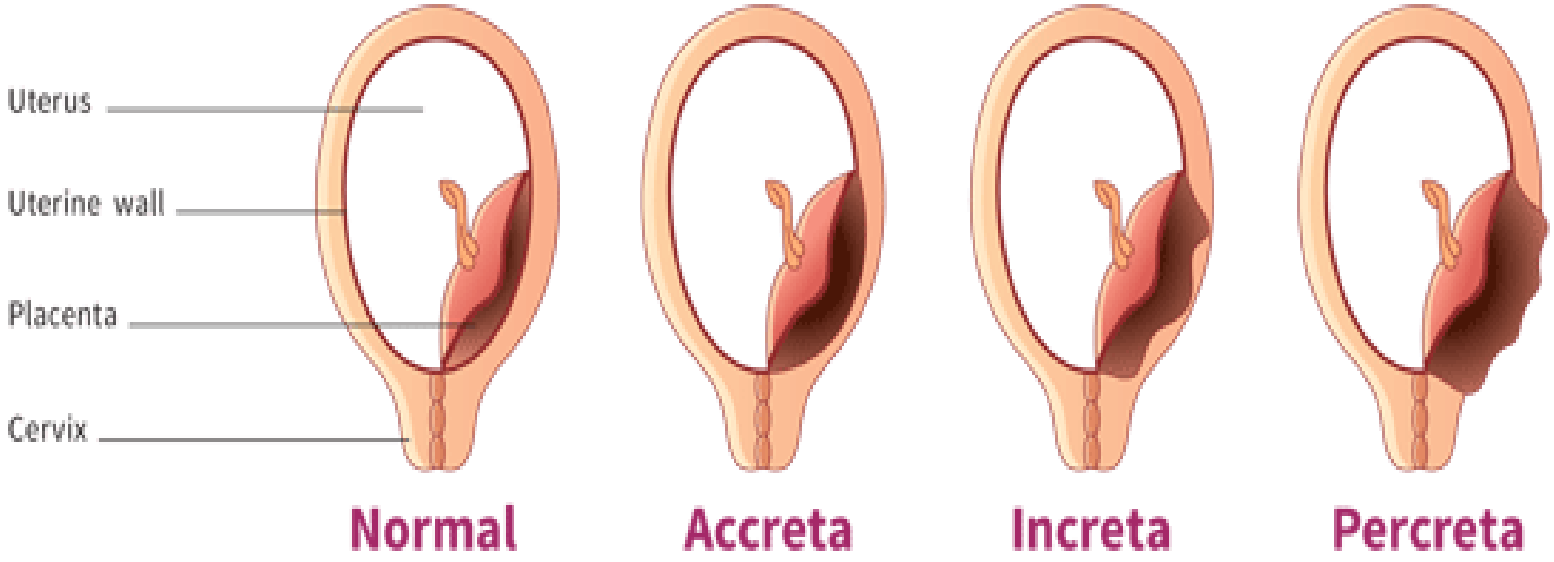
- **Over distension of uterus**
- **Granmultipara**
- **Anaemia & Malnutrition**
- **Induction of labour**
- **Prolonged / precipitate labour**
- **Anaesthesia (halogeneted) & analgesia**
- **Tocolytics**
- **Mismanagement of 3rd stage of Labour**
- **APH**
- **Malformation of the Uterus**
- **Utrine Fibroid**
- **Morbidly adherent Placenta**

2. RETAINED PLACENTA

- Simple adhesion
- Morbid adhesion>Accreta, Increta & Percreta

3. TRAUMATIC

- ❖ Large episiotomy & extensions
- ❖ Tears & lacerations of perineum, vagina or cervix
- ❖ Valvovaginal or Broad ligament Haematoma
- ❖ Uterine rupture



Morbid Adherent Placenta

4. COAGULATION DISORDERS

- Abruptio placentae
- Sepsis :IUD,PROM
- Massive blood loss
- Massive blood transfusion
- Severe PET (Pre-eclamptic Toxemia)/ Eclampsia
- Amniotic fluid embolism
- Hepatitis, jaundice in pregnancy

Causes of secondary PPH

- Retained product of conception
- Puerperal sepsis
- Subinvolution of placental bed
- Puerperal inversion of uterus
- Placental polyp
- Fibroid polyp
- Carcinoma cervix
- Uterine arteriovenous malformation
- Chorion epithelioma

Clinical Features

- General examination
- Sign of shock-hypotension, tachycardia,cold and clammy skin depends on predelivery Hb %, amount of bleeding.
- Abdominal examination
- In atonic PPH –uterus feels flabby, soft, may be overdistended with clots
- Vaginal examination
- Vaginal bleeding may be-
- Trickle of blood

ASSESSMENT OF BLOOD LOSS AFTER DELIVERY

clinically

Grading of blood Loss				
Class	1	*2*	3	4
Pulse	Normal	100-120	120-140	>140
SBP	Normal	80-100	70-80	<60
	Maintained	Mild hypotension	Moderate Hypotension	Severe Hypotension
MAP	>90	80-90	50-70	<50
Tissue Perfusion sign	Postural hypotension	Peripheral vasoconstriction	Pallor, restlessness, oligouria	Air hunger, anuria, collapse
% of blood loss	15	20-25	30-35	>40

ASSESSMENT OF BLOOD LOSS AFTER DELIVERY

- Quantitative
- Visual examination

Fully Soaked	Estimated blood loss
Gauze	30 ml
Tampon	50 ml
Sanitary Pad	120 ml
Small Abdominal Pack	250 ml
Large abdominal pack	450 ml
Saree	500 ml

ASSESSMENT OF BLOOD LOSS AFTER DELIVERY

- Direct collection of blood into bedpan or plastic bags

PREVENTION

Antenatal-

- Regular ANC
- Correction of anaemia
- Identification of high risk cases
- Blood grouping
- Placental localisation
- Identification of morbid adherent placenta

PREVENTION

Intranatal and Postnatal-

- Delivery in hospital with facility for Emergency Obstetric Care.
- Otherwise transport to the nearest such hospital at the earliest.
  - Keep speedy transport available
- Local / Regional anaesthesia
- Use partograph to prevent prolonged labour
- Avoid prolonged, obstructed labour or uterine inertia
- Active management of third stage of labour
- 4^{th} Stage of labour - Observation, Oxytocin
- Exploration of uterovaginal canal
- Examination of placenta

ACTIVE MANAGEMENT OF 3RD STAGE OF LABOUR (WHO-1989)

- Oxytocics - Routine use in third stage → blood loss ↓ by 30-40%
  - 10 Units Oxytocin IV / IM
  - Syntometrine 1 Amp IV
  - Ergometrine 1 Amp IV/IM
  - Carboprost (better than Ergometrine) 0.125 – 0.25 Mg IM
- Early cord clamping
- Controlled cord traction
- Inspection of placenta & lower genital tract

HAEMOSTASIS ALGORITHM

- General Medical Management:

H- Ask for Help

A-Assess (vital parameters, blood loss) and resuscitate.

E-Establish aetiology, ecbolics, ensure availability of blood.

Establish aetiology : 4Ts' - tone, tissue, trauma, thrombin

Ecbolics (syntometrine, ergometrine, bolus oxytocin) ,Ensure availability of blood and blood products.

M- Massage the uterus.

O- Oxytocin infusion, prostaglandins (intravenous, rectal, intramuscular, intramyometrial)

Surgical Management

- **S-** Shift to operating theatre Bimanual compression Anti-shock garment, especially if transfer is required.
- **T-** Tissue and trauma to be excluded and proceeded to tamponade baloon, uterine packing.
- **A-** Apply compression sutures.
- **S-** Systematic pelvic devascularisation (uterine, ovarian, internal iliac)
- **I-** Interventional radiology, uterine artery embolisation.
- **S-** Subtotal or total abdominal hysterectomy

Management of PPH

- Step 1 - Initial assessment and treatment
- Resuscitation
- Assess the Cause
- Investigation
- Step 2- Direct therapy
- Tone
- Tissue
- Trauma
- Thrombin
- Step 3- Intractable PPH
- Get additional help
- Maintain vitals
- Local control
- Surgery
- Step 4-
- Post hysterectomy bleeding

Management of Shock

- Large bore IV line (two)
- Keep patient warm and flat
- Give oxygen
- Intravenous Fluids
- Fresh Blood
- Platelets
- Fresh frozen plasma
- Cryoprecipitate
- Recombinate activated factor 7a

To maintain

Pulse, BP, RR, Total input, Total output

Urine output (desired) –30ml / hr

Whole blood / pack cell

Goals of Management in Shock

Hemoglobin >8 gm/dl
Platelet count > 75* 10 9/L
Fibrinogen> 100 mg/dl
Prothrombin time > 1.5 * mean control
Activated Prothrombin time > 1.5 * mean control
British Committee for standards in hematology management of massive blood loss, 2006

Measures to make hypotonic uterus contract and arre haemorrhage

OXYTOCICS

- Oxytocin
- Dose 10-20 units in 1 L of RL at 40-60 drops /min
- Route- IV infusion or !0 unit IM as a part of AMTSL
- Avoid IV bolus injection(hypotension , ischemic changes), more than 40 IU saturate the receptors and cause water intoxication

OXYTOCICS

- Ergometrine
- Dose 0.2 - 0.5mg IV
- Route-IM/ IV
- Dose- 0.2 mg, if required repeted every 4 hr. max 5 dose
- Contra indication- HTN, Heart disease in pregnancy, Rh incompability, severe anemia

OXYTOCICS

- 15 methyl PGF2α
- Dose-125- 250 µg
- Route-IM/ Intramyometrial
- if required repeted every 15-90 min max 8 dose
- Contra indication- Bronchial Asthma, Heart disease especially cynotic, Glucoma, know hypersensitivity

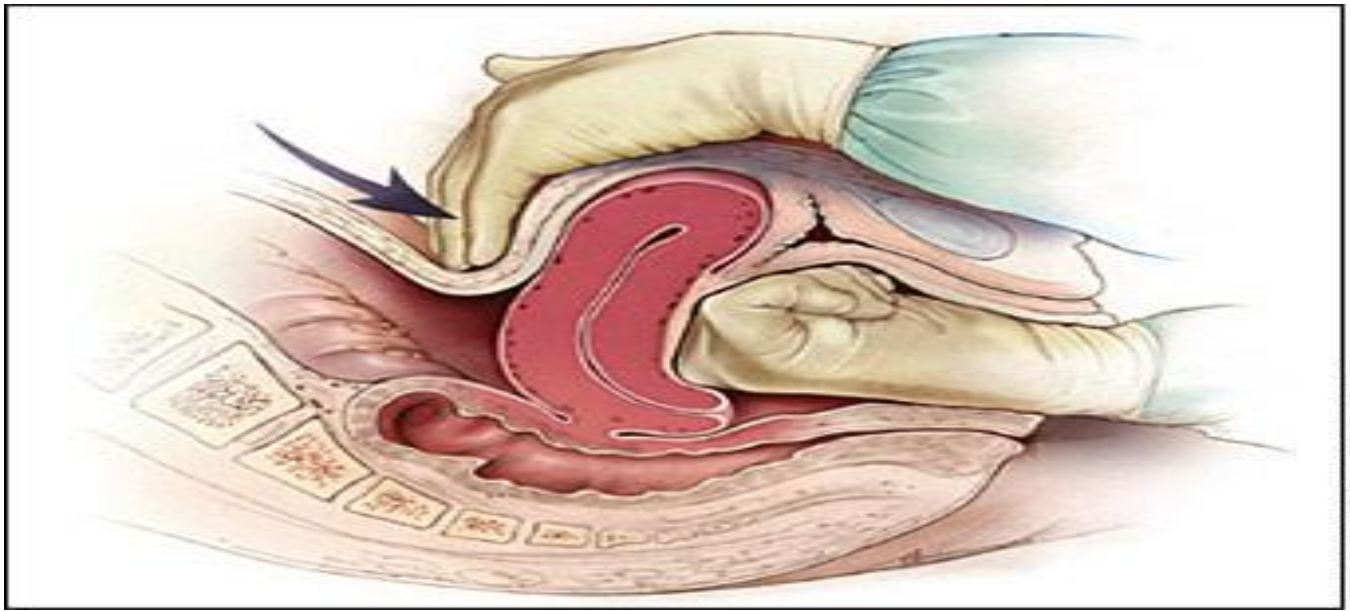
OXYTOCICS

PGE1 misoprostol

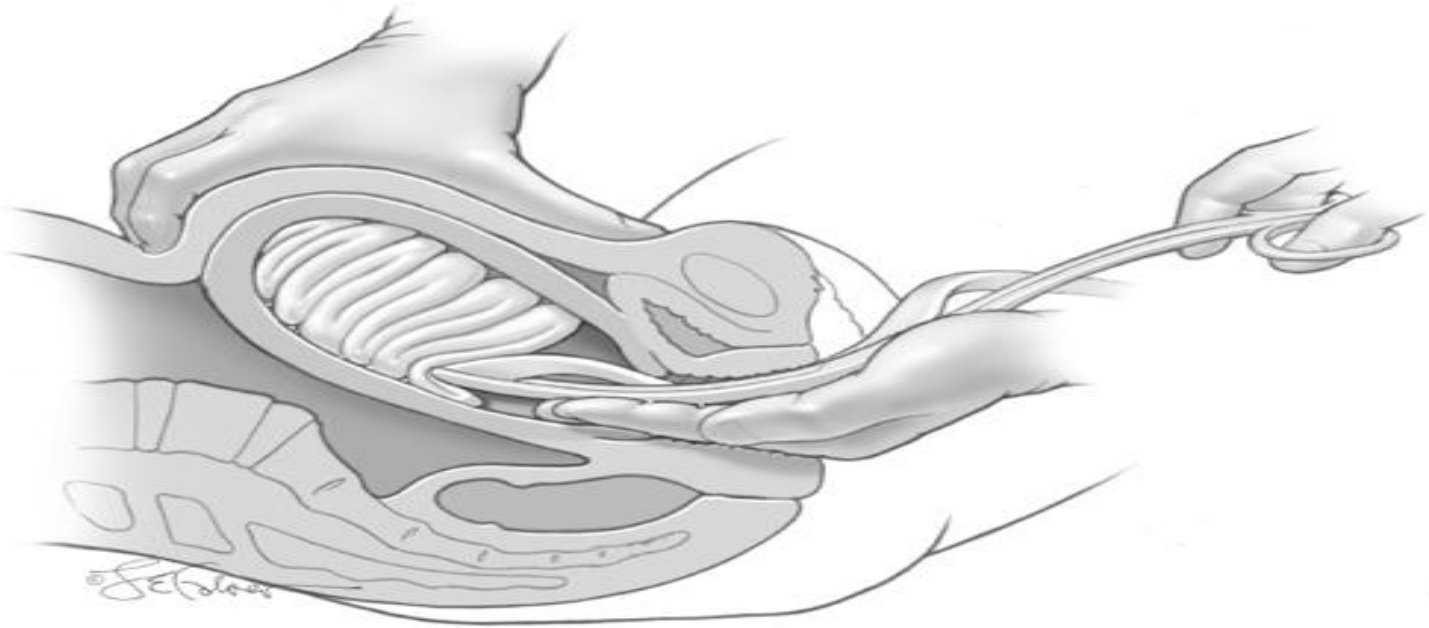
- Dose-200-800 µg
- Route-Oral/ sublingual/ rectal
- Oral/ sublingual -400-600 µg
- Rectal- 800-1000 µg
- Contra indication- Heart disease , Glucoma, known hypersensitivity

Other Measures to make hypotonic uterus contract and arrest haemorrhage

Bimanual compression



UTERINE PACKING



Source: E.R. Yeomans, B.L. Hoffman, L.C. Gilstrap III, F.G. Cunningham: Cunningham and Gilstrap's Operative Obstetrics, Third Edition: www.obgyn.mhmedical.com
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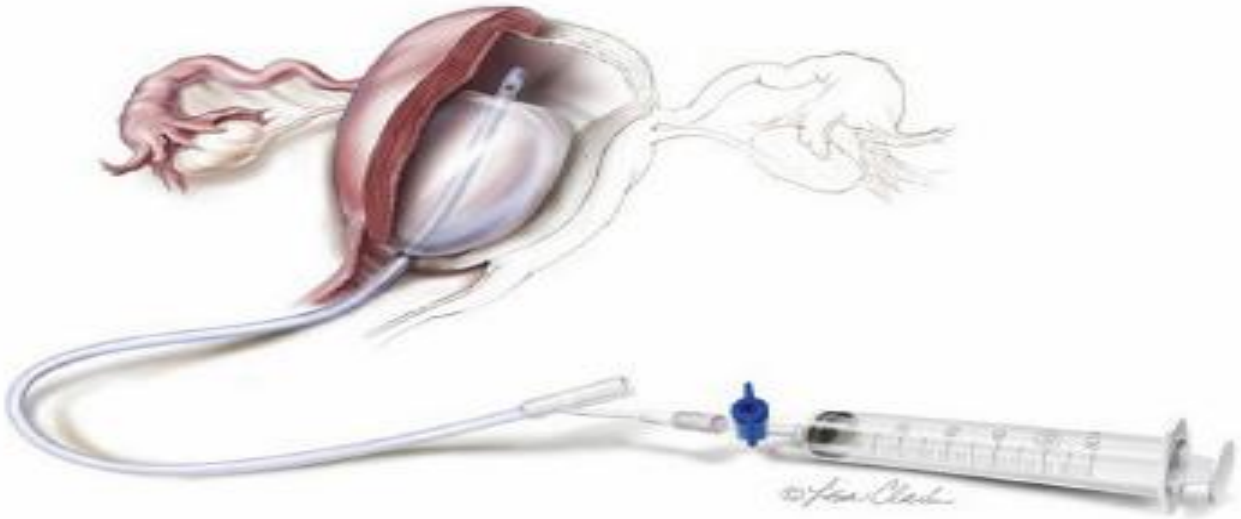
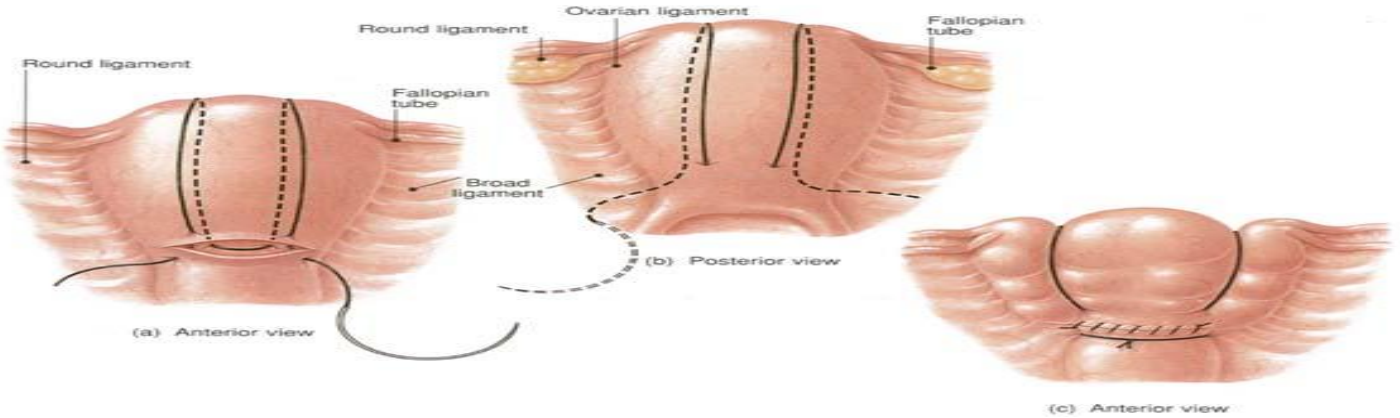
UTERINE TAMPONADE

Figure 3. The Bakri SOS Tamponade Balloon



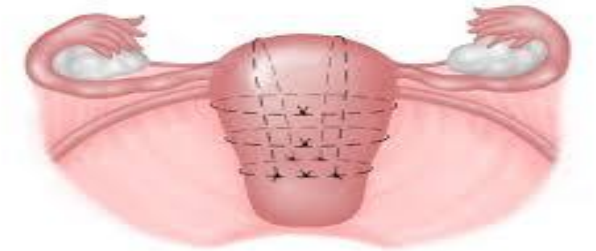
Non Pneumatic Anti shock garments

MANAGEMENT OF PPH

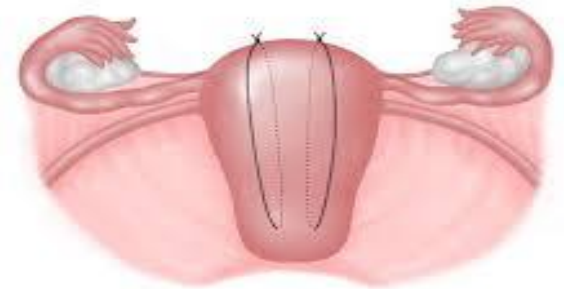


B-lynch sutures

MANAGEMENT OF PPH



Pereira sutures



Hayman sutures

Surgical treatment

- Uterine Artery ligation
- Utero ovarian A. Ligation
- Internal Iliac A. Ligation
- Brace suturing of Uterus
- Hysterectomy
- Angiographic embolisation

Secondary post partum hemorrhage

Slight to heavy bleeding usually 7-14 days after birth

Investigation-

Endo cervical swab- if endometritis

USG

Color doppler

Conservative treatment

Surgical treatment

- EUA (Examination Under Anaesthesia)
- D &C of retained product of conception
- hysterectomy

MANAGEMENT OF DIC

- Fresh blood transfusion
- Blood products
  - Cryoprecipitate
  - Fresh frozen plasma
  - Platelet concentrate

MORBIDITY & MORTALITY FROM PPH

- Shock & DIC
- Renal Failure
- Puerperal sepsis
- Lactation failure
- Blood transfusion reaction
- Thromboembolism
- Sheehan’s syndrome
- >25% Maternal deaths are due to PPH


Thank You