POST-NATAL CARE

Post-Partum Haemorrhage (PPH)

Definition

- **Primary PPH:** blood loss > 500ml (NVD) or > 1000mL (LSCS) in 1st 24 hrs
- **Severe PPH:** blood loss > 1000ml
- **Secondary PPH** = PPH b/w 24 hrs and 6 wks
- **Major obstetric haemorrhage**
  - blood loss > 2500ml
  - require transfusion > 5 units red cells
- **Primary within 24h birth or secondary 24h → 6w**

Remember:
- Maternal blood volume ≈ 7L
- Blood loss of > 30% (2.1L) ➔ critical
- Placenta 600-700mL blood loss/min

Risk factors

Maternal issue
- Previous PPH
- Obesity
- Pre-eclampsia
- Multi-pregnancy

Placental issue
- Placental abruption
- Placental accrete

Foetal issue
- Large baby

Delivery itself
- Failure to progress
- Instrumental delivery
- GA
- Episiotomy

Preventative measures

2/3rd of primary PPH **cannot** be predicted

Ante-natal
- Treat anaemia
- Empty bladder prior to birth (full bladder reduces contraction)

Peri-natal
1. **Prophylactic 10U IM syntocinon** (once anterior shoulder seen)
2. **Cord clamp + placenta delivery** (support fundus and identify signs of placental separation)
3. **IV TXA (**in high risk LSCS patients)

Active Mx of PPH

1) **Listen and clarify handover [patients may NOT present classically]**
- **Turn lights on**
- **Elicit concerns – where is baby? Any complications w/ delivery?**
  - Ask how they are feeling? – SOB, light-headed?
- **Obtain ante-natal card**

2) **Recognise ED → SEND FOR HELP**
- **Check vitals (↑HR, ↑RR, ↓sats, ↓BP)**
- **EBL (**weigh pads + swabs)
- **Palpate fundus (?boggy) + inspect vulva + placenta**

3) **Request PPH box + notify blood bank**

4) **Lie Patient FLAT + keep patient warm**

5) **A - patent**
B – high FiO2
C – 2x large bore 16G cannulas [critical]
- *Bloods* = FBC, Coags, Group + X-match (ask for O negative for blood bank)
- *IVF* – warm 2L Hartman's
- *Insert IDC* – reduce bladder volume + measure UO

Rule of 30's:
- HR ↑30
- EBL > 30%
- SBP ↓30
- Hct/Hb ↓30

5) **Identify causes**
- **Continue Baseline Obs**
- **Weigh linen pads → estimate blood loss**

	RF	Cause	Specific Mx
Tone (70%)	Overdistension ➢ Poly, macro, prolong ➢ Multi-gest, fibroids Maternal ➢ Advanced age ➢ BMI >35 ➢ Hx of APH, PPH ➢ IoL, instrumental	➢ atonic uterus ➢ uterine exhaustion ➢ precipitous delivery ➢ drugs (GA, MgSO4)	➢ Uterine fundal massage ➢ LOOK for what comes out – clots, blood?
Trauma (19%)	➢ Precipitous bith ➢ Instrumental ➢ Episiotomy ➢ LSCS	➢ vaginal / cervix / perineal lacerations	Inspect genital tract → lacerations haematomas
Tissue (10%)	➢ retained placenta ➢ placenta accrete ➢ Manual removal	➢ retained placenta, membrane or clots	Assess placenta and membranes
Thrombin (1%)	➢ pre-eclampsia ➢ amniotic fluid embolism	DIC or VWF, ↓ plt Coag defects	MTP + ROTEM • plt, FFP, cryoppt

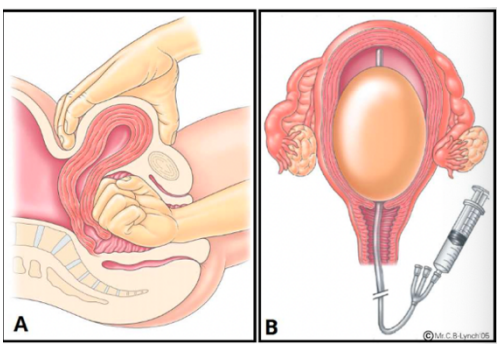
How to stop the bleed – pharmacotherapy - uterotonics?

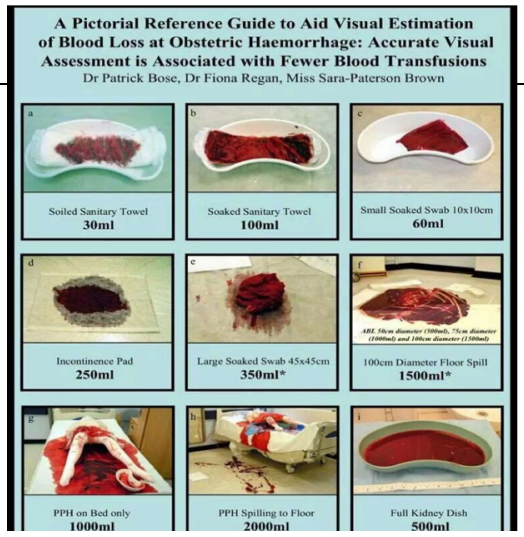
*CONTINUE uterine massage

1st line = increase uterine contraction			
1.	**250µg ergometrine IM or slow IV injection AND/OR**	Ergometrine = arterial vasoconstriction and myometrial contraction	**A/E** = HTN, chest pain, palpitations, raynaud's **CI:** pre-eclampsia, HTN
2.	**IV 40U syntocinon (500mL) infusion**	↑ uterine tone and myometrial contraction	**A/E:** N/V. headache
2nd line = Reduce blood loss due to atony if 1st line unsuccessful (exclude other causes)			
4.	**800µg misoprostol (PR)**	Pg analogue → contraction	**A/E:** anaphylaxis, abdo pain, diarrhoea
5.	**IM 250µg Carboprost (every 15 mins – 8x doses)**	Pg analogue → contraction	**A/E:** high fever, light-headed, SOB **CI:** HTN, asthma
6.	***IV 1g TXA in 100mL ns***	anti-fibrinolytic → prevents clot breakdown	**Clotting – PE/Stroke/AMI**
7.	***Activate MTP By senior clinician ➔ Hb < 70***	4x pRBC 2x FFP	SEE GUIDELINES
8.	Surgery – bakri balloon tamponade (PRESS against bleeding) • B-lynch suture (suture uterus to compress it) • Uterine artery embolization • Hysterectomy (last resort)		

Care after PPH:

1) **Beware of 2nd PPH** (24 hrs to 12 wks post-partum) ➔ retained POC or infection (endometritis)
   a. **USS** (visualise retained POC) or **high vag swabs** (infection)
   b. **Surgical removal** of POC OR **antibiotics** if infection
2) **CVS** – vitals, fundal tone, weigh pads, DIC (bleed + clots)
   a. Check fluid intake + urine output
3) **Resp** – RR, sats, LOC
4) **Renal** – fluid restriction, haematuria, oliguria
5) **Patho**- FBC, EUC, LFT, coags
6) **Psych** Support – depression, social support
7) **Exercise** + Ted Stockings, mobilise





O+G Abnormal Early Pregnancy Presentations

Massive transfusion protocol (MTP) template

The information below, developed by consensus, broadly covers areas that should be included in a local MTP. This template can be used to develop an MTP to meet the needs of the local institution's patient population and resources

Senior clinician determines that patient meets criteria for MTP activation

Baseline:
Full blood count, coagulation screen (PT, INR, APTT, fibrinogen), biochemistry, arterial blood gases

Notify transfusion laboratory (*insert contact no.*) **to:**
'Activate MTP'

Laboratory staff
- Notify haematologist/transfusion specialist
- Prepare and issue blood components as requested
- Anticipate repeat testing and blood component requirements
- Minimise test turnaround times
- Consider staff resources

Haematologist/transfusion specialist
- Liaise regularly with laboratory and clinical team
- Assist in interpretation of results, and advise on blood component support

Senior clinician
- **Request:**[a]
  - 4 units RBC
  - 2 units FFP
- **Consider:**[a]
  - 1 adult therapeutic dose platelets
  - tranexamic acid in trauma patients
- **Include:**[a]
  - cryoprecipitate if fibrinogen < 1 g/L

a Or locally agreed configuration

Bleeding controlled?

YES / NO

Notify transfusion laboratory to:
'Cease MTP'

OPTIMISE:
- oxygenation
- cardiac output
- tissue perfusion
- metabolic state

MONITOR
(every 30–60 mins):
- full blood count
- coagulation screen
- ionised calcium
- arterial blood gases

AIM FOR:
- temperature > 35°C
- pH > 7.2
- base excess < –6*
- lactate < 4 mmol/L
- Ca^{2+} > 1.1 mmol/L
- platelets > 50 × 10^9/L
- PT/APTT < 1.5 × normal
- INR ≤ 1.5
- fibrinogen > 1.0 g/L

*The numerical representation of base excess can be shown differently in varying texts. Please be aware that for the purposes of this template, a base excess of <-6 refers to a base excess of -5, -4, -3 and so forth. A base excess of -7, -8, -9 and so on is associated with a worsening prognosis. The normal range for base excess is -2 - +2.

Blood products:

1) **Group and X-match (**pink-hand-labelled tube)
2) **Whole blood** (RBC, WCC, plt)
3) **pRBC** =severe anaemia (Hb <70)
4) **plt** = <10
5) **cryoppt** = clot factors (fibrinogen def,)
6) **FFP** (albumin + cryoppt) = correct factor def of hypovol. Shock

Suggested criteria for activation of MTP

- Actual or anticipated 4 units RBC in < 4 hrs, + haemodynamically unstable, +/– anticipated ongoing bleeding
- Severe thoracic, abdominal, pelvic or multiple long bone trauma
- Major obstetric, gastrointestinal or surgical bleeding

Initial management of bleeding

- Identify cause
- Initial measures:
  - compression
  - tourniquet
  - packing
- Surgical assessment:
  - early surgery or angiography to stop bleeding

Specific surgical considerations

- If significant physiological derangement, consider damage control surgery or angiography

Cell salvage

- Consider use of cell salvage where appropriate

Dosage

Platelet count < 50 x 10^9/L	1 adult therapeutic dose
INR > 1.5	FFP 15 mL/kg[a]
Fibrinogen < 1.0 g/L	cryoprecipitate 3–4 g[a]
Tranexamic acid	loading dose 1 g over 10 min, then infusion of 1 g over 8 hrs

a Local transfusion laboratory to advise on number of units needed to provide this dose

Resuscitation

- Avoid hypothermia, institute active warming
- Avoid excessive crystalloid
- Tolerate permissive hypotension (BP 80–100 mmHg systolic) until active bleeding controlled
- Do not use haemoglobin alone as a transfusion trigger

Special clinical situations

- Warfarin:
  - add vitamin K, prothrombinex/FFP
- Obstetric haemorrhage:
  - early DIC often present; consider cryoprecipitate
- Head injury:
  - aim for platelet count > 100 × 10^9/L
  - permissive hypotension contraindicated

Considerations for use of rFVIIa[b]

The *routine* use of rFVIIa in trauma patients is not recommended due to its lack of effect on mortality (Grade B) and variable effect on morbidity (Grade C). Institutions may choose to develop a process for the use of rFVIIa where there is:
- uncontrolled haemorrhage in salvageable patient, and
- failed surgical or radiological measures to control bleeding, and
- adequate blood component replacement, and
- pH > 7.2, temperature > 34°C.

Discuss dose with haematologist/transfusion specialist

[b]rFVIIa is not licensed for use in this situation; all use must be part of practice review.

ABG	arterial blood gas	FFP	fresh frozen plasma	APTT	activated partial thromboplastin time
INR	international normalised ratio	BP	blood pressure	MTP	massive transfusion protocol
DIC	disseminated intravascular coagulation	PT	prothrombin time	FBC	full blood count
RBC	red blood cell	rFVIIa	activated recombinant factor VII		

POST-NATAL CARE (TOP to Toe)

Generally 6 week post-partum check up

	Maternal	Newborn
Psych/head	➢ Post-natal depression screen (mood and depression) • Anaemia = due to blood loss	• Hearing test • ROP
Breasts	• Mastitis – *candida* • Lactation / supply / good technique	•
Bowels / wounds	• LSCS scar (healing, d/c) • Haemorrhoids • Sphincter dysfn = Urinary and faecal incontinence	•
Reproductive	• **Lactational amenorrhoea** • **Advise on lochia (mix of blood, endometrial tissue and mucus)** (dark red → brown → lighter in flow and colour) (avoid tampons = increases risk of infection) • **Perineal tears scar healing** • **CST screening** • **COCP advice** (POP or Implanon – safe in childbirth OR IUD within 48 hrs after birth or 4 weeks post delivery) o Cannot start COCP as will **stop 1) lactation** and **2) increase risk of cholestasis in future**	•
Lower Limbs	• DVT • superficial thrombophlebitis)	• DDH USS scan (if high risk or click on newborn exam)
Infection	• UTI, endometritis, mastitis	• Vit K and Hep B injections • IUTD = DPT, polio, HiB, hep B, rotavirus and pneumococcal
F/U tests	• Fasting BSL (GDM) • BP and UA – proteinuria (pre-eclampsia or gestational HTN)	• Newborn screening spot test
Social	• Family planning – *Contraception,* • Social support, domestic violence • Financial issue – job, QoL	• Family planning

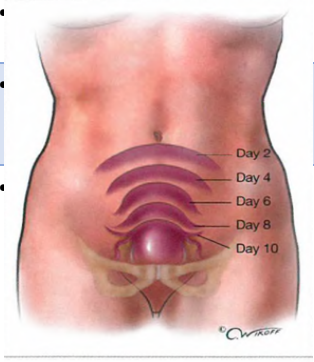


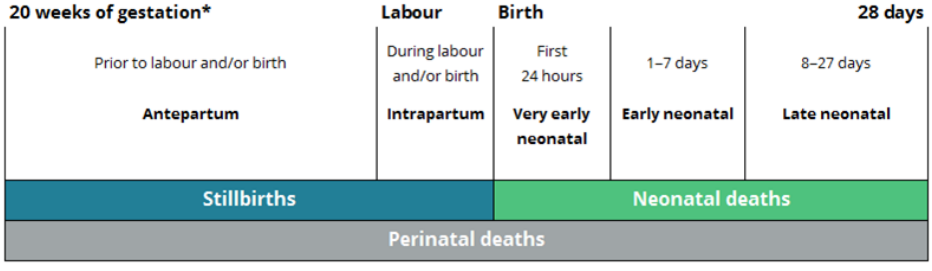
Figure 1. Uterine involution during the early puerperium.

Major causes of maternal mortality in the developed and developing world.

Developed world	• **suicide and cardiovascular disease**	
Developing world	• Severe bleeding, infections after childbirth • Complications from delivery or unsafe abortions • Pre-eclampsia and eclampsia	• Poor health literacy • Self-perception about accessing public healthcare (intergenerational trauma of institutionalization and taking children away) • Geographical remoteness of communities

Explain the objectives and guiding Principles for Developing a Birthing on Country Service Model

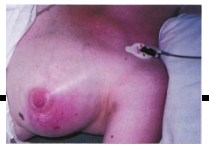
- Improve ATSI maternal and infant health outcomes
- Establish an effective governance structure that strengthens partnership between ATSI communities and the Birthing on Country service
- Contribute to **community healing** driven by ATSI community control and engagement, cultural rejuvenation, knowledge exchange and workforce development
- Promote knowledge exchange and strengthen community and health service capacity to provide the best start to life for ATSI mothers and babies
- Reduce clinical and cultural risks through the provision of high quality, culturally competent care from pregnancy to the year after birth.



*At least 20 week of gestation and/or 400 grams birthweight.

POST-PARTUM COMPLICATIONS

	Post-Partum Endometritis	Retained POC	Postpartum Anemia	Post-natal depression (PND)
Define	Inflammation of endometrium ➢ Infection in post-partum period OR ➢ PID (if not pregnant) ➢ Gram +/- or anerobes (including STIs)	POC= placental tissue or fetal membranes that remain in uterus after delivery	Hb < 100 in post-partum delivery due to ➢ Blood loss	Low mood during the postnatal period ➢ **50% Baby blues** (1st week after birth) ➢ 1 in 10 **PND** (peaks at 3/12) ➢ 1 in 1000 **Puerperal psychosis** (few weeks after birth)
RF	Post LSCS Maternal fever/ sepsis	• M/C • Termination • Placenta accreta	• Instrumental or LSCS • Antenatal anaemia • PPH	• Existing MH illness (Bipolar, eating disorder, A+ D) • Previous trauma, sexual abuse, ACE
Sx	➢ Acute onset after birth ➢ Fever ➢ Abdo pain ➢ PV bleeding (worsens over time) ➢ PV Offensive odour d/c	• PV bleeding (becomes heavier over time) • Abnormal PV discharge • Lower abdo/pelvic pain • Fever (if infection present)	Symptoms of anaemia ➢ Fatigue ➢ Light-headed ➢ Dizzy ➢ SOB ➢ Palpitations ➢ Pallor	**Baby blues (fluctuating hormones)** ➢ Fatigue, sleep deprivation ➢ Establish feeding and baby bonding **Postnatal depression – SIGECAPS** ➢ Low mood or anhedonic **Puerperal psychosis** ➢ Hallucinations, depression, mania ➢ Confusion, thought disorder
Ix	• Vaginal swab (M/C/S + charcoal for C + G) • USS – to exclude RPOC	Pelvic or TVUS	FBC +/- Fe studies	**Edinburgh depression scale /30** (past week) ➢ Score > 13 = further assessment
Comp.	• Sepsis	• Endometritis • 2nd PPH	For Fe transfusion ➢ Fe staining on skin, N/V ➢ Anaphylaxis	Suicide – fetal harm
Mx	Prophylactic ABx given prior to LSCS Initial Sepsis protocol for those with signs of sepsis ➢ ABx - Begin augmentin (co-amoxiclav) ➢ FiO2 ➢ IVF ➢ ABG (lactate, pH, glucose) ➢ UO ➢ Blood / urine cultures	**Surgical removal of retained POC** ➢ Under GA ➢ Vacuum aspiration and curettage (scraping) **Complications of surgery** ➢ **Endometritis** ➢ **Asherman's syndrome** (when scar tissue/ adhesions / synechiae forms within uterus causing 2 walls to stick sealing cervix shut – infertility)	Give Fe **only after** infection Rx (AS pathogens feed on Fe to grow) ➢ **Hb < 100** = PO Fe 200mg tds for 3 months ➢ **Hb < 90** = IV Fe (feinject) + PO Fe ➢ **Hb < 70** = blood transfusion + PO Fe **Other reasons for Fe infusion** ➢ Malabsorption (coeliac, IBD) ➢ Known poor compliance for PO ➢ Does not respond to oral Fe	Referral to **SafeStart** program made by GP, midwife and healthcare providers ➢ **Mild** = Psych counselling (**Gidget house**) + CBT ➢ **Mod** = Meds (SSRI, anti-psychotics, Li) *avoid Na valproate* ➢ **Severe** = combination of above and Electroconvulsive therapy ➢ **F/U w/ GP**

	Lactation issues	Mastitis	Postpartum Thyroiditis	Sheehan's syndrome
Define	**Multifactorial** ➢ Poor lactation ➢ XS lactation ➢ Sore breasts ➢ Breast engorgement ➢ Poor latching /sucking	**Inflammation of breast tissue secondary to breastfeeding** ➢ Obstructed ducts ➢ Infection (S. aureus)	**Thyroid dysfunction within 12 months of delivery** ➢ Unknown cause ➢ ?immunosuppressed in pregnancy means after delivery -XS antibodies released (e..g anti-TPO) damages thyroid	Rare complication of **PPH –** drop in BP causes **avascular necrosis of anterior pituitary gland** ➢ Posterior pituitary spared since receives blood supply from collaterals
RF	• Stressed mother / neonate separated • Low concentration of glands • Delayed BF after delivery	• Lactation	• NO hx of thyroid disease	• PPH
Sx	➢ Poor or over supply ➢ Maternal stress	• Breast tenderness • Unilateral **red, swollen, warm** breasts • Bloody or pustular breast d/c • Fever / NS • Cold and flu-like symptoms	**3 stages** 1) **Thyrotoxicosis** (first 3 months) Sx 2) **Hypothyroid** (from 3-6 months) Sx **3) Euthyroid**	➢ **Low PrL** = reduced lactation ➢ **Low LH/FSH** = amenorrhoea ➢ **Low ACTH** = Adrenal crisis ➢ **Low TSH** = Hypothyroidism
Ix	Investigate for poor supply (medical) • **Endo** (Hypothyroid, PCOS, Sheehan, diabetes) • **Meds** (Anti-HTN, COCP, labetolol)	Swab d/c → M/C/S ➢ MSSA vs MRSA	TFT – TSH, fT3, fT4 ➢ Performed 6-8 wks post-partum	
Comp.	Loss of maternal bonding Psychological distress	• **Breast abscess - Sepsis** • **Candida of nipple (post-ABx)** – itchy, cracked areola (bilateral) + baby has oral candida + candida nappy rash (red spots)	➢ Long-term thyroid disease	
Mx	**Poor lactation / supply** ➢ Avoid timed feeds (feed on demand) ➢ Adequate rest b/w feeds ➢ Express fully **XS lactation** ➢ Lactation consultant **Non-pharm**: • Avoid tactile stimulation • Wear firm bras • Ice packs if inflamed • Xtra pads **Pharm**: **Low dose 1mg cabergoline** (dop. Agonist) ***A/E = headache, dizzy, fatigue, ortho hypoTN CI = HTN, PET **Sore breasts / mastitis** ➢ See right **Breast engorgement** ➢ Technique education ➢ Analgesia, breast massage ➢ Avoid pacifiers	**Conservative** ➢ Warm compresses + good hygiene ➢ Continue BF, EBM (empty completely) ➢ r/v lactation technique ➢ simple analgesia **Medical** 1. PO flucloxaciilin 500mg qid for 7 days OR Bactrim (if MRSA) 2. Incision + drainage (USS FNA) **Rx candida of nipple** ➢ Topical anti-fungal ➢ PO nystatin for newborn 	Most are self limiting ➢ Some require long-term Rx ➢ Propranolol for hyperthyroidism ➢ Levothyroxine for hypothyroidism ➢ Annual TFTs	**Hormone replacement therapy** 1. Cortisol (most important) 2. Levothyroxine 3. E2/PG until menopause (beware of A/E) 4. Growth hormone

REVISION O+G Q's:

During pregnancy what is the safest analgesic with the least fetal effect?

a) Aspirin
b) Acetaminophen
c) Ibuprofen
d) Gabapentin
e) Oxycodone

Ans: b

16-year-old girl brought into the clinic by her mother with concerns regarding lack of any puberty signs. The appearance of external genitalia is of a normal prepubertal female. Laboratory studies show marked elevated LH and FSH levels. Which of the following causes of delayed puberty accompanies elevated circulated gonadotropin levels?

a) Chronic illness
b) Gonadal dysgenesis
c) Kallman syndrome
d) Hypothalamic tumours
e) Malnutrition

Ans: b – typical scenario of unresponsive ovary with normal functioning hypothalamus and pituitary. This suggests secondary amenorrhoea. To investigate, best would be karyotyping (e.g. 45XO). To treat concerns w/ menarche, need to consider giving PG/E2 to enable development of secondary sex characteristics, improve bone health and increase her libido.

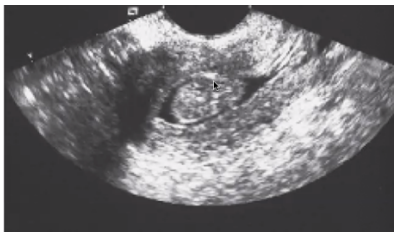
48-year-old presents with IMB for past 2 months. They can occur any time during her cycle and is bright red in colour, which is usually lighter than her normal periods. Her cycles are regular, 3-5 days with no dysmenorrhoea. LMP was 8 days ago. She has not been suffering from any hot flushes or night sweats. She remains sexually active and has undergone laparascopic tubal ligation after her last child birth. She has had 3x successful LCSC deliveries with her last childbirth 16 years ago. She has had a pap smear 2 years ago which was normal. She is currently on levothyroxine for hypothyroidism.

O/E = no pallor, unremarkable abdo exam. Speculum exam showed normal cervix and vagina with no evidence of bleeding at time of examination. Bimanual exam shows normal size uterus with no evidence of adnexal masses.

DDx:
- Cervical or endometrial polyps
- Cervical lesions
- Uterine defect SCAR due to 3x LSCS
- Endometrial cancer
- Cervical cancer (less likely given -ve pap smear)
- Pregnancy complications
- Iatrogenic (e.g. XS levothyroxine, sexual foreplay)

Ix:
- FBC, EUC, CRP, coag, group + hold
- Transvaginal USS – shows mass within uterine cavity
- ?fibroid, ?cancer, ?polyp

Mx:
- Hysteroscopy for gold-standard Dx → biopsy lesion to determine if pre-cancerous or malignant

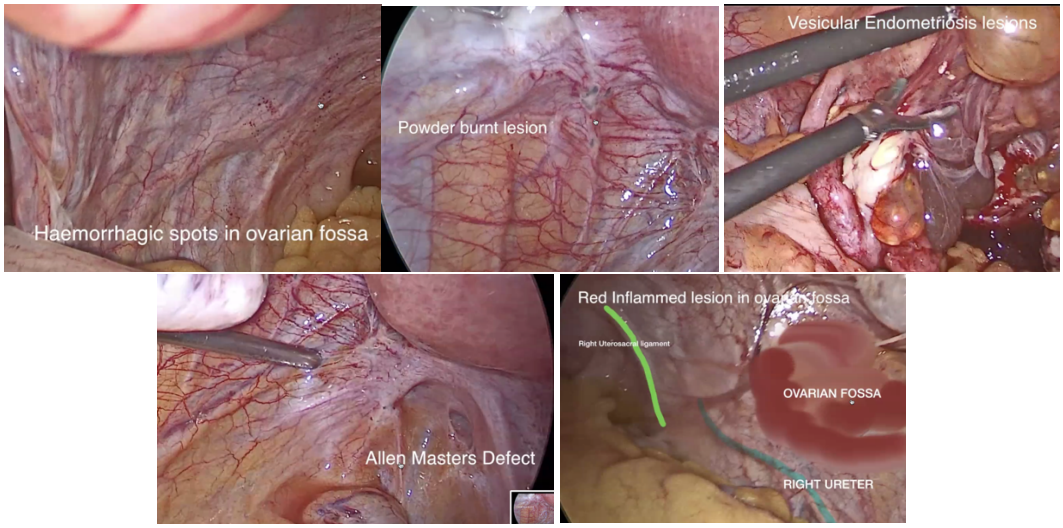


31-year-old lady trying to conceive for 3 years with secondary amenorrhoea for past 7 mths. Earlier history of delayed cycles for 5 years. Bleeding for 2-8 days with intervals of 3-6/12. Severe dysmenorrhoea with some cycles having HMB. She underwent medical termination at age of 20 years soon after marriage. Currently in a monogamous relationship since marriage. She has a laparoscopy a year ago which was unremarkable. Pap smears are normal with no history of STI. She has been however been diagnosed with IBS and currently taking mefenamic acid, ranitidine and metoclopramide. Both partners do NOT smoke and take alcohol only occasionally

DDx for infertility
- Inability to ovulate
  - PCOS
- Disrupted HPA axis (2° amenorrhoea = ovary issue)
  - Prolactinoma – bitemp. Heminopia?
  - ↑PrL = meds → metoclopramide, methyldopa, ranitidine, omeprazole (PPI)
- Partner issue? – immotile sperm, poor sperm quality

Ix:
- FBC – anaemic
- EUC – dehydrated
- CRP
- Day 2 investigations:
  - **LH/FSH**
  - **ER/PG**
  - **Prl** (↑ = inhibits LH/FSH release)
  - **TT** (androgen insensitivity)
  - **TSH** (hypo/hyperthyroidism)
  - **AMH** (↑↑ in PCOS – suggests ↑ ovarian reserve)

Diagnosis = iatrogenic cause:
- Likely metoclopramide (dopamine antagonist) → enabling increased PrL release from the hypothalamus
- Rx: stop it (other anti-emetics)



Hysteroscopic signs of endometriosis

37 year old female noticed considerable abdominal swelling since last one year. Believed she was gaining weight during the lockdown period. She started wearing larger size clothing, some friends even thought she was pregnant especially since she has been trying to conceive in the past few years. Her menstrual cycles remain regular but heavy using about 7-8 pads/day with clots and flooding on 2nd and 3rd day. However, she has not received any treatment for her HMB. She has experienced dysmenorrhoea.

O/E pallor, distended abdomen with smooth palpable firm mass extending 2 inches above the umbilicus. Mass measured 24 weeks gravid uterus. It was non-tender and mobile. Speculum exam revealed a cervix held up high and not visualised. Bimanual exam revealed a large mass filling the whole of pelvis

DDx for abdo mass

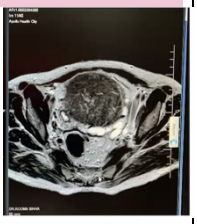
- Gynae
  - Extremely large fibroid
  - Ovarian/uterine/cervical cancer
- Non-gynae
  - Hernias (indirect, direct, femoral)
  - Hepatomegaly
  - Splenomegaly
  - Bowel obstruction
  - Distended bladder
  - Ascites
  - Pancreatic mass
  - Central adiposity

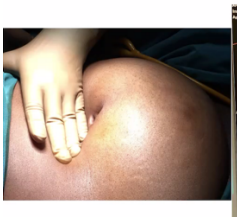
Ix:

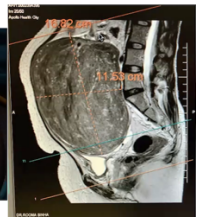
- FBC – anaemic
- EUC
- LFT
- CRP
- B-HCG

Imaging –> USS first

- One B-hcg negative → CT scan







Management = iatrogenic cause:

Bloods revealed low Hb. What do you do?

- IV Fe transfusion → fastest delivery to replete iron reserves and raise Hb to acceptable level prior to surgery
- Oral Fe = best to take 2hrs after meals to minimise risk of gastritis (esp. occurs when taken on empty stomach)
  - Take with Vit C to improve absorption

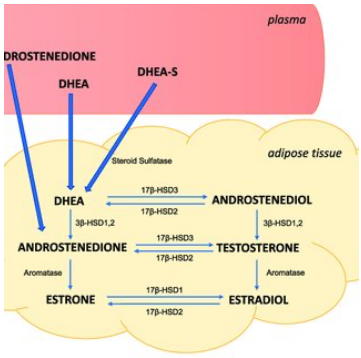
What other things to manage fibroid?

- GnRH analogue – reduce growth
- Ensure acceptable Hb before surgical excision

What is choice of surgery?

- Myomectomy – if young, planning a family
  - Wait 3-5 mths before trying to conceive
  - Risk of recurrence, particularly as adenomyosis (2o to fibroids)
- Hysterectomy – older women, completed family

Even after menopause, most women have circulating estrogen. In high enough levels, this can promote the development of endometrial cancer. After menopause, estrogen mainly originates from aromatisation of which of the following?



a) Andostenedione to estradiol by ovarian granulosa cells
b) Andostenedione to estradiol by ovarian theca cells
c) Andostenedione to estradiol by adipose tissue
d) estradiol to estrone by adipose tissue
e) testosterone to estradiol by adipose tissue

Ans: C

A postmenopausal patient is interested in HRT. Which of the following statements should be included in your discussion regarding the risks of HRT with combined therapy relative to no HRT? Should we give progesterone or NO progesterone?

a) Just as oral contraceptives may include blood coagulability, HRT, will also, due to high doses of hormone
b) HRT may increase the risk of cholelithiasis
c) HRT may increase the risk of endometrial cancer
d) HRT may increase the risk of breast cancer
e) HRT may increase the risk of renal dysfunction

Ans: C – E2/PG drives proliferation of endometrium. Need to give PG to protect endometrium

Genital syndrome of menopause - 63-year-old patient presents with symptoms of vaginal itching, vaginal dryness and dyspareunia. Which of the following is the most appropriate medical therapy?

a) Orally administered estrogen for the first 25 days of each month
b) Vaginal estrogen cream daily
c) Orally administered progesterone 5-10mg daily for 10 days each month
d) Testosterone tablets 10mg/day
e) Estrogen 20mg administered IV

Ans: B – Use vaginal estrogen cream for vaginal dryness and atrophy

- *Signs of atrophic vagina = reduced labia fat pad, easy bleeding when vaginal speculum*

Post-menopausal bleeding – 59yo female work up one night with blood stains in her night dress. There was no pain or excessive bleeding. She had similar episodes twice in last 6 months but had ignored. She had attained menopause at the age of 49 years. At present does have any menopausal symptoms. Her pap smear was normal 6 months ago. She had 2 childbirth in the past and underwent laparoscopic tubal ligation. She is on atenolol and ecosprin for HTN management. O/E no pallor, weight 79kg, BMI 37. Abdominal exam is normal. Speculum exam revealed healthy cervix but vulva and vagina had signs of atrophy, with normal uterus size and no adnexal masses.

DDx (PALM COEIN)

- Endometrial cancer (MUST exclude)
  - Not picked up by simple pap smear
- Endometriosis
- Cervical/endometrial polyps and fibroids
- Other carcinomas:
  - Ovarian
  - Cervical

Ix:

- FBC – anaemic
- EUC – dehydrated
- CRP
- Need urgent hysteroscopy to investigate for endometrial biopsy