Women's Health Interest Society of Monash

MUMUS

WHISM

Practice OSCEs in Obstetrics & Gynaecology

2020

Disclaimer

These OSCE stems have been written by Year 4C and Year 5D Monash medical students who are members of WHISM. They are intended as a study aid for students undertaking their Women's Health rotation and/or preparing for their Women's Health exams. Any relevance to faculty released OSCE stations is purely coincidental.

Title sheet

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Station title: Emily's Emergency

Topic covered: Obstetric Intrapartum emergencies

Station type: Management

Candidate instructions

Stem

You are an O&G resident at a metropolitan hospital and have been called to the delivery suites. On arrival, the nurses provide the following information

Emily Montague is a 33-year-old, G3P2 woman who delivered her baby 10 minutes ago. She is now bleeding heavily estimated at 1.5L loss. Can you please assess and manage her accordingly.

Tasks

1. Assessment and management (8 mins)

Patient and examiner instructions/Marking sheet

Patient name: Emily Montague

Patient age: 33

Patient occupation: Teacher's assistant

[History] – the history component should be very brief. The candidate's attention should focus upon management

The candidate should recognise the following: "This is an obstetric emergency. I will call for more senior consultant and midwives. I will simultaneously conduct the history, examination and management." The student may state "for the purpose of today, I will discuss these steps individually."

Initial management and stabilisation

- DRSABCD
- Assess the current haemodynamic state of the patient
- 2xIV access and commence rapid fluid replacement (warmed crystalloid)
- Bloods for analysis: FBE, LFT, UEC, Coagulation profile, group and hold (crossmatch 4 bags)
- Administer oxygen
- Bed in head down position
- Insert urinary catheter to remove bladder distention
- Monitor vital signs every 15 minutes
- Monitor fluid balance
- Tranexamic acid administered

Examiner to provide the following information: BP 100/60, PR 105, actively bleeding, alert and awake conscious state

Elicit history for key and relevant information

The candidate should ask a few key questions to identify potential causes for the active bleeding. An extensive history is not necessary

Antenatal:

- In the antenatal period were there any concerns with the investigations (blood test/US)?
- Are there any pre-existing maternal medical conditions?
- Medication in use?
- Any emergencies or complications in previous pregnancies?

Intrapartum:

- What was the nature of labour onset?
- What was the progress through labour? Regularity of contractions?
- Was labour prolonged?
- Was an instrumental delivery or episiotomy required?
- Were there any perineal tears?
- Was any medication provided during the labour? IM oxytocin after delivery?

Baby:

- Did the baby require active resuscitation?
- Gestation?
- APGAR?
- Weight?

Nature of blood loss:

- Estimated loss?
- Associated symptoms?
- Was the placenta and membranes complete when delivered?

Examiner to provide the following information: The patient had no medical or antepartum problems with no complicating medical conditions. She was induced at 40^{+6} weeks with an ARM and IV syntocinon was administered (10IU in 1L saline). There was no concern for her progress through labour, contracting at 6:10. No instruments or episiotomy was necessary. The baby was healthy with 1min and 5 min APGAR of 7 and 9. 1.5L is expected to be lost with clots passed. The placenta and membranes appear to be whole.

Establish the cause

1) Uterine atony
    a. Abdominal examination to assess uterine state. Is it boggy and non-contracted?
2) Retained placental products
    a. Assess delivered placenta
3) Trauma
    a. Assess perineal and vaginal region for tears and source of bleed – compress any sites of bleeding and suture tears if present
4) Thrombus
    a. Via blood test for coagulation profile

Examiner to provide the following information: On examination, a boggy, non-contracted uterus is palpated. The fundal height remains above the umbilicus. On visual inspection, there appears to be no perineal lacerations.

Management

- Initiate uterine fundal massage
- Ergometrine 250mcg IV and 250mcg IM (first line – do not use in pre-eclampsia)
- Oxytocin 40IU in 500mL of normal saline. Infuse at 10L/hr (second line)
- Misoprostol 800-1000mcg per rectum or sublingual (third line)
- Carbopost (fourth line)
- Bimanual uterine compression

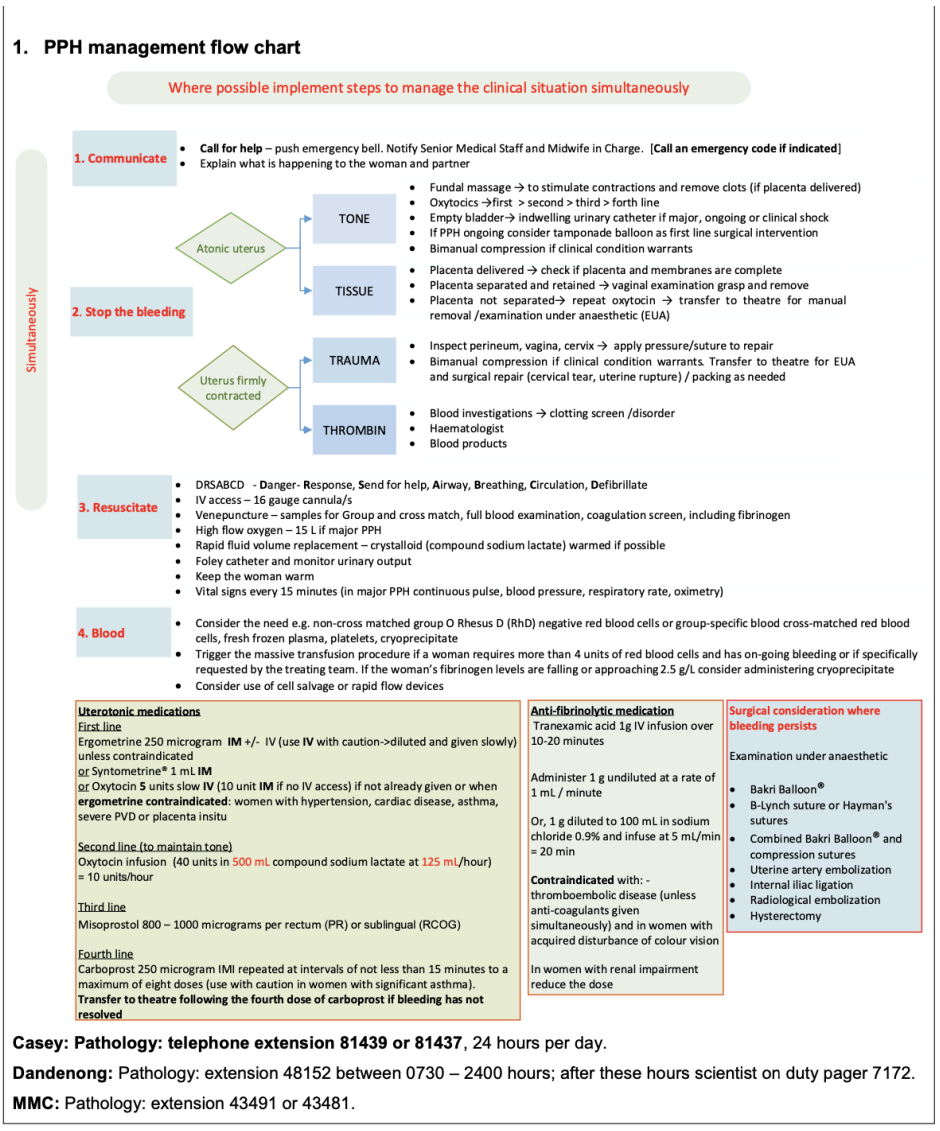
Examiner to prompt: Despite medical management the patient continues to bleed. This is expected at 3L total loss.

- Call and alert theatre. Take patient in for manual inspection of uterus under anaesthesia. The patient must be updated and consented for this procedure including the risk of a hysterectomy if bleeding continues (last-line)
- Prostaglandin F2a (0.25mg injected via abdomen into the four quadrants of the uterus – max dose 1mg)
- Bakri balloon
- B lynch sutures
- Combination of Bakri balloon and compression sutures
- Uterine artery embolization
- Internal iliac ligation
- Hysterectomy – last line
- If trauma: vaginal packing may be necessary

Additional resources:

Monash Prompt guidelines should be referred to when reviewing emergency management of PPH – see next page for screenshots.

1. PPH management flow chart



Casey: Pathology: telephone extension 81439 or 81437, 24 hours per day.

Dandenong: Pathology: extension 48152 between 0730 – 2400 hours; after these hours scientist on duty pager 7172.

MMC: Pathology: extension 43491 or 43481.

Side effects of PPH medications should also be reviewed (may come up through an OSCE – see attached from PROMPT)

Table 3: Uterotonic medications: [Midwives may administer as per Standing Orders procedure]

Medication	Indication	Dose / Route	Action	Comments
Ergometrine (Ergometrine®)	First line for atonic uterus	250 micrograms **IM** (preferred route) And /or 250 micrograms slow **IV** (if not contraindicated) IV used with extreme caution : • dilute to 5 mL with sodium chloride 0.9% • give slowly over 3-5 minutes	Produces tonic uterine contractions lasting 2-3 hours, including of the circular muscle surrounding the cervical os IM takes 2-5 minutes to act with a sustained effect for 3 hours IV takes under 1 minute to act with a sustained effect for 45 minutes.	Avoid with: • Hypertension • Cardiac disease • Asthma • Placenta insitu • Severe peripheral vascular disease Best administered with an antiemetic (unless the woman has received an antiemetic within 6 hours) Side effects: • Severe vomiting • Hypertension • Headache • Placental entrapment
Syntometrine® (ergometrine-oxytocin)	First line alternate for atonic uterus	1 mL (contains ergometrine 500 micrograms and oxytocin 5 units). **IM** injection	Takes 2.5 minutes to act.	As above
Oxytocin	First line Preferred first line in women with placenta in situ, hypertension or preeclampsia[1]	5 units by **slow IV** (may have dose repeated) Or 10 units IM if there is no IV access	Oxytocin produces rhythmic longitudinal uterine muscle contractions	Side effects: Rare: water intoxication hypotension
	Second line to maintain uterine tone when achieved.	40 units in 500 mL compound sodium lactate (Hartmann's® solution) Intravenous infusion at 125 mL per hour i.e.10 units/hr	As above	Note: higher concentrations or infusion rates are not associated with improved responses but do substantially increase side effects[1]

Uterotonic medication: [requiring medical prescription and supervision]

Used to control excessive postpartum bleeding due to uterine atony when management with oxytocin and ergometrine has been unsuccessful and other cervical/vaginal causes have been excluded.

Misoprostol (Cytotec®)	Third line To maintain uterine tone when achieved.	800 - 1000 micrograms (4-5 tablets) Per rectum (PR) or sublingual[1]	Produces strong uterine contractions Takes 30 minutes for peak levels Useful for long-term maintenance of uterine tone	Avoid with • allergy to prostaglandins Caution use in asthmatics Side effects: Common: • Abdominal pain • Vomiting and diarrhoea • Shivering and pyrexia • Hypo or hypertension
*Carboprost tromethamine (Hemabate®) (Prostaglandin F2 alpha analogue)	Fourth line Refractory atonic PPH (accepted off-label use for this indication with high quality evidence to support its use)[1,2]	250 micrograms (1 mL) repeated 15 minutely to a maximum of 8 doses Deep intramuscular injection Intra-myometrial administration **must only** be performed with a consultant obstetrician present	Produces strong uterine contractions Assess for effect, if insufficient after 15 mins give additional dose **Transfer to theatre following the fourth dose** of carboprost if bleeding has not resolved, with an awareness of impending surgical intervention[1] Doses 5-8 should be given in theatre only[13]	Avoid with • Significant history of asthma, as carboprost is a potent bronchoconstrictor • Active cardiac disease as it can cause severe hypertension • Active pulmonary, renal or hepatic disease Side effects: • Nausea, vomiting and diarrhoea