SCENARIO

Maternal Medicine- Cardiac Patient

LEARNING OBJECTIVES

Be aware of effects of pregnancy on pre-existing cardiac disease

Demonstrate multidisciplinary team work

Be aware of alternative management of 3rd stage /PPH in cardiac patients

Management of cardiac arrest in obstetric patient

EQUIPMENT LIST

Noelle/ SimMom
Fluids / giving sets
Fake hand held notes
C-Section tray
ECG
Arrest trolley
GA drug box
IVC packs/Blood Bottles
Monitor for manikin (incl. capnography)

PERSONNEL

MINIMUM: 5
ROLES:
Obstetric Junior/Reg
Midwife
Anaesthetic Reg/Cons
Obstetric Consultant

FACULTY

MINIMUM: 3
Facilitator
Observer
Debrief Lead

TIME REQUIRMENTS
TOTAL 1.5hours

Set up: 30 mins
Pre Brief: 10 mins
Simulation: 20mins
Debrief: 30mins

INFORMATION TO CANDIDATE

PATIENT DETAILS

Name: Lucy Smith
Age: 30
Weight/BMI: 58kg/21
Current Gestation: 35+6

Phx: Bicuspid Ao valve, Ao stenosis
Allergies: Penicillin Rash
G2P1 prev NV at 38weeks

SCENARIO BACKGROUND

Location: Obstetric Theatre

Situation: Lucy had been well and asymptomatic prior to this pregnancy and up until 33 weeks gestation. She became SOB on minimal exertion with associated chest pain. She has been an inpatient under the cardiologists.
She has a normal ECG at rest.
Echocardiogram shows Ao valve area 1.1 cm^2 and a peak gradient of 70mmHg (mod-severe stenosis) normal ventricular function
Decision has been made by the Obstetricians and Cardiologists for delivery.

Task: You are the St7 allocated to the elective section list.
Please liaise with the anaesthetist regarding the management of 3rd stage and plan potential management of a PPH.

RCOG CURRICULUM MAPPING

Module 9 Maternal Medicine:
Cardiac Disease – congenital
Advanced Training Skills Module:
Maternal Medicine
Cardiac Disease

INFORMATION FOR ROLEPLAYERS

BACKGROUND

Your name is Lucy Smith. You are 30 years old and this is your second pregnancy. You had a normal delivery with no problems with your first baby. You have always known one of your valves was slightly different but it wasn't until after you first baby that you were sent for a heart ultrasound and found that your valve was narrow. You have been completely well up until 33 weeks in this pregnancy where you felt breathless on walking short distances and began to experience chest pain. You were using more pillows at night to sleep to avoid lying flat, which made your symptoms worse. You were admitted to hospital for bed rest under the cardiologists
You are now 35+6 weeks and the doctors have decided to delivery you by section as your symptoms are getting worse.

RESPONSES TO QUESTIONS

You are feeling very anxious you have chest pain and can feel your heart pounding.
You feel very unwell when the Anaesthetist lays you flat
You become dizzy and blackout

INFORMATION TO FACILITATOR

SCENARIO DIRECTION

Pre operative team brief to discuss importance of avoiding hypovolemia and hypotension in this patient.
Discuss with cardiology – ensure available /onsite for advice
Discuss modification of oxytocin administration – infusion vs bolus with preloading
Monitoring required- arterial line, ECG
Avoid vasodialators (GTN)
Paediatricians present, consultant obstetrician and anaesthetist (cardiac)
GA vs regional, cardiac stabilising induction
Post op monitoring / ITU/Cardiac ITU bed

Lines in situ (BASELINE obs)
ECG: tachycardia with ST depression when lying supine with left tilt.
GA induction: BP drops by 10mmHg (STAGE 1 obs)
After delivery of placenta 400mls blood loss
O2 sats drop, course creps on chest auscultation
If give frusemide (STAGE 2 obs)
Further hypotension – PEA (STAGE 3 obs)

One cycle of CRP and adrenaline
Return of spontaneous circulation (ROSC)

PPH 800mls – uterine atony
Oxytocin concentrated infusion given

Requires noradrenaline infusion (STAGE 4 obs)

SBAR hand over to ITU/CICU

End scenario

SCENARIO OBSERVATIONS/ RESULTS

	BASELINE	STAGE 1 Post-induction	STAGE 2 3rd stage frusemide	STAGE 3 PEA	STAGE 4 Post NA
RR	20	16 (ventilated)	16 (ventilated)	18 (ventilated)	16 (ventilated)
chest sound	Chest Clear	Clear	coarse bibasal crackles	coarse bibasal crackles	coarse bibasal crackles
SpO2	95%	99%	89%	70%	92%
HR	105	105	135	135	120
Heart sound	Loud systolic murmur	Loud systolic murmur	Loud systolic murmur	Loud systolic murmur	Loud systolic murmur
BP	90/40	80/30	70/30	20/10	105/55
Temp	36.6	36.5	35.7	35.6	35.1
Central CRT	2 secs	2 secs	3 secs	>5 secs	3 secs
AVPU	A	U	U	U	U

SCENARIO DEBRIEF

TOPICS TO DISCUSS

Management of caesarean section in cardiac patient

Anaesthetic options

High-risk periods anaesthetic induction and postnatal period 24-48hrs

Importance of avoidance of hypovolemia/hypotension in-patient with outflow valve disease

Modification of management of PPH – medical and early recourse to surgical options

REFERENCES

StratOG Core module Maternal Medicine – Cardiac Disease March 2016 RCOG