Mark sheet question 1

A 28 year old woman presents for acute appendectomy – she is 22 weeks pregnant

1.a list the risks to the foetus during anaesthesia (5 marks)

Spontaneous abortion

IUGR

Placental ischaemia leading to foetal hypoxia

Foetal acidosis / ion trapping

b. How can the risks to the foetus be minimised

Avoid unnecessary surgery (Sarah’s note – what are the risks of untreated maternal appendicitis to the foetus?)

Manage conservatively

Optimise fluids / analgesia / anaes (Sarah’s note: how would you achieve these things?? E.g. anaesthesia – avoidance of drugs that cross placenta (in early pregnancy avoidance of nitrous oxide which is teratogenic in animal studies), use of lateral tilt, preference for open procedure rather than laparoscopic as risk of injury to uterus with lap and greater haemodynamic compromise possible)

Involve obs / midwifery (Sarah’s note; needs obstetric assessment pre-op – minimum of auscultation of foetal heart preferably CTG)

Counselling mother re risks

Intra-op

Experienced surgeon and anaesthetist

Left lateral tilt

Pre-o2 (Sarah’s note: how is this different to a non-pregnant appendicectomy – the question is specifically about obs!)

RSI

Reduced anaesthetic doses (Sarah’s note; what is the effect of pregnancy on MAC??!)

Prophylactic abx (Sarah’s note: how is this different to a non-pregnant appendicectomy (and the surgeons often only want antibiotics if there is evidence of perforation rather than routinely pre-op). are there any considerations of which antibiotics to use?)

Care with trocar placement (see above note re open vs laparoscopic)
P < 15 mmHg? (Intra-abdominal pressure)

Post op

On appropriate ward (Sarah’s note – which??! You need to make a choice here!!)

Avoid NSAIDS (Sarah’s note: why?? There are lots of women on aspirin antenatally after all. I think you need to consider the risks benefits of various options – NSAIDs and the duct / bleeding risk Vs effect of opiates)

VTE prophylaxis (Sarah’s note: what would you use and why?)
b. In pregnancy cardiac output increases by 20% at 8 weeks and 40-50% at 28 weeks.

The main compensatory mechanism is an increase in stroke volume followed by an increase in heart rate (Sarah’s note: the increase in SV and HR causes increase in CO, it is not compensatory!! The SV increases due to an increase in plasma volume (both plasma and red cell mass increase remember!))

In mitral stenosis this increases the pressure in the left atrium which \(\rightarrow\) pulmonary hypertension \(\rightarrow\) pulmonary oedema thereby worsening mitral stenosis pathology.

Increase in heart rate in relatively fixed cardiac output my \(\rightarrow\) myocardial ischaemia.

During labour autotransfusion of 300-400 ml blood is transfused back into the maternal circulation during each contraction (Sarah’s note – this isn’t actually correct – you need to have a look at this!!) with autotransfusion from the placenta of around 500 ml on delivery (Sarah’s note; so what is the implication for mitral stenosis??)

c. Admit to labour ward in high observation room

Multidisciplinary approach – involve consultant anaesthetist, senior midwife, consultant obstetrician, cardiology specialist

Aim for vaginal delivery – early epidural for reduction of stress response or for top up for instrumental delivery (Sarah’s note: what happens if you reduce the afterload for a patient with a fixed cardiac output??)

Continuous foetal monitoring (what and why)

Consider invasive monitoring (Sarah’s note: I think invasive monitoring is pretty mandatory here!! But then where will you care for this woman?)
Question 3

1. History – medications, any comorbidities e.g. diabetes, hypertension, OSA, IHD (Sarah’s note, I suggest you specifically focus on disorders that are related to obesity), previous obstetric history, smoking? Reflux?

   Examination: current BMI, airway assessment, palpate back –palable spinal processes, examine hands – difficult IV access

2. High risk patient

   May be difficult IV access; anticipate multiple attempts and use of ultrasound

   Epidural may take longer than average so better request early

   If epidural no-satisfactory can offer other analgesia options e.g. Entonox (Sarah’s note: why are we particularly recommending epidurals here?)

   High risk; difficult airway, increased risk infection / poor wound healing, increased risk thromboembolic disease

   Reassure we will maintain her safety as best as possible and that of her baby

   BP cuff may be unreliable, therefore invasive monitoring may be required.

   C. inform anaesthetist and obstetrician of patient arrival

   Consultant lead care

   MDT approach (? Bit late for that?)

   Ensure early IV access and bloods: FBC, U&E< LFT, clotting (Sarah’s note: what about G&S? And why LFT and clotting??)

   Early epidural siting.

   Ensuring appropriate equipment –theatre table and delivery bed that support patient weight

   Arterial line if BP unreliable

   Ensure long length epidural needles and spinal needles

   Inform paeds of potential complicated delivery
VTE prophylaxis

Avoid long acting opiates that cause respiratory depression

Ensure availability of difficult airway equipment.
Question 4

1. Positional, worse on shaving?? coughing, sitting up

   Frontal headache

   Features of meningism: photophobia and neck stiffness

   12 hours to 3 days

2. Tenaion headach

   Migraine

   Infection / meningitis / encephalitis/ sepsis

   Dehydration

   Cental things: venous sinus thrombosis / SAH / intra cerebral haemorrhage / benign intracranial hypertension / hydrocephalus / cerebral oedema

3. Lying down /dark room / explanation

   Oral hydration

   Iv fluids

   Analgesia (paracetamol, NSAID, codeine (Sarah’s note: beware recent guidelines re codeine and breast feeding) caffeiene, abdo binder

   Sphenopalatine nerve block


   Check obs not pyrexial / hypertensive

   Check bloods – WCC, plt

   2 anaesthe (1 experienced in CNB)

   Theatre, iv access, AAGBI monitoring, ODP

   Prepare emergency drugs
Prepare epidural equip. both scrubs.

Aseptic do epidural where you can feel space

Aseptically take 20mls venous blood

Stop injecting (Sarahs’ note: inject where?!!) – if resistance or pt complains of back pain or 20 ml injected

Lie down (you or the patient?!!)

Post procedure obs . PACU (what??)

Warn about back pain / tenderness/ bruising

Discharging with neuro impairment or signs of infection (WHAT??!!)

Warn about back pain / tenderness / bruising.