Management of the woman of childbearing age presenting with lower abdominal pain

19 August 2021

Coceka Nandipha Mnyani

GAUTENG
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

GGT2030
GROWING GAUTENG TOGETHER

Outline

- History and examination
- Special investigations
- Differential diagnosis – causes can be:
  - Gynaecological
  - Pregnancy-related, or
  - Non-gynaecological and non-pregnancy related

History of the lower abdominal pain

- Onset – sudden vs. gradual
- Nature – stabbing, colicky, dull, etc.
- Severity; intermittent or constant; radiation
- Associated symptoms – PV bleeding (quantify), vomiting, diarrhoea, constipation

History

- LNMP, contraception use

- Postpartum – puerperium
  - Days postpartum
  - Mode of delivery
  - Complications intrapartum or postpartum

- Previous surgery

Examination

- Stable vs. unstable
- HR>SBP – very ill patient
- **Abdominal examination** – localised vs. generalised tenderness; woody hard; guarding and rebound; palpable uterus – pregnant/postpartum
- **Perineum and PV examination** – digital, speculum examination
  - bleeding, discharge, pus, draining liqour

Special investigations

- PREGNANCY TEST
- Urine dipstick
- Abdominal and/or transvaginal ultrasound
- Abdominal X-ray – very limited value unless bowel obstruction suspected

‘All women of reproductive age are pregnant until proven otherwise, and it is ectopic until clearly demonstrated to be intrauterine.’

Oxford Handbook of Obstetrics and Gynaecology

Differential diagnosis

Pregnancy-related <24 weeks

- Ectopic pregnancy
- Miscarriage
- Round ligament pain
- UTI
- Red degeneration of fibroids

Differential diagnosis

- Pregnancy-related ≥24 weeks
  - Braxton Hicks contractions
  - Preterm labour (NB: viability of pregnancy)
  - Uterine rupture
  - Pubic symphysis dysfunction/diastasis
  - Adnexal torsion – can occur at any gestation

Puerperal sepsis

Differential diagnosis – other causes

- PID
- Appendicitis
- Intestinal obstruction
- Acute cholecystitis
- Pancreatitis

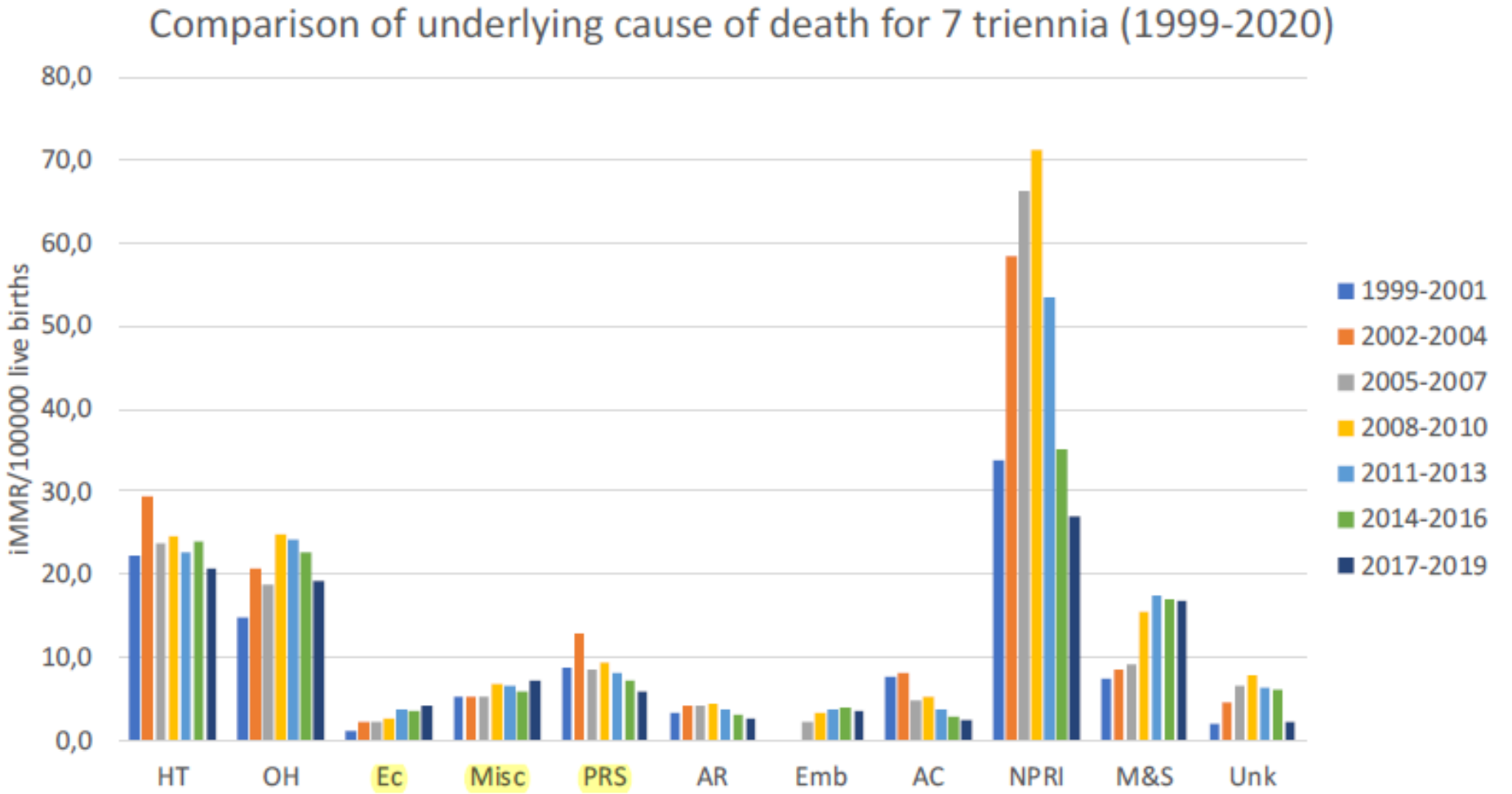
Non-abdominal causes

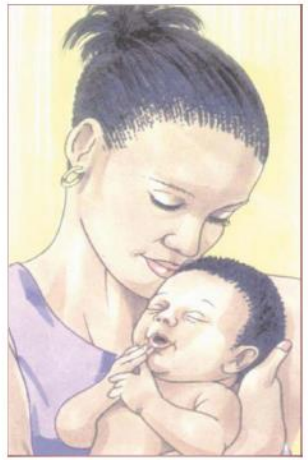
- Lower lobe pneumonia
- Diabetic ketoacidosis
- Sickle cell crisis

Focus of the presentation

- Ectopic pregnancy
- Miscarriages
- Puerperal sepsis

Focus on assessment, making the diagnosis, and when to refer to the next level of care





Saving Mothers and Babies 2017-2019: Executive Summary

Early pregnancy deaths (miscarriage and ectopic are together the 5th most common cause but have increased steadily over the triennia, thus are an emerging issue.

Overall, 62.4% maternal deaths were potentially preventable; the major underlying conditions causing preventable deaths were anaesthetic related 93.3%, OH 89.5%, PRS 76.4%, Ectopic pregnancy 75.2%, HDP 70.6% miscarriage 64,9%. This is unchanged from previous years.

Ectopic pregnancy

Ectopic pregnancy – presentation

- Amenorrhoea
- LAP – often mild and vague, classically unilateral
- PVB – usually small amount, often brown
- May be diarrhoea and vomiting
- May be CET and adnexal tenderness
- Dizziness, light-headedness, peritonism and collapse if ruptured

- NB: the majority of women with an ectopic pregnancy will be clinically well and stable with minimal symptoms and signs

Ectopic pregnancy

Investigations:

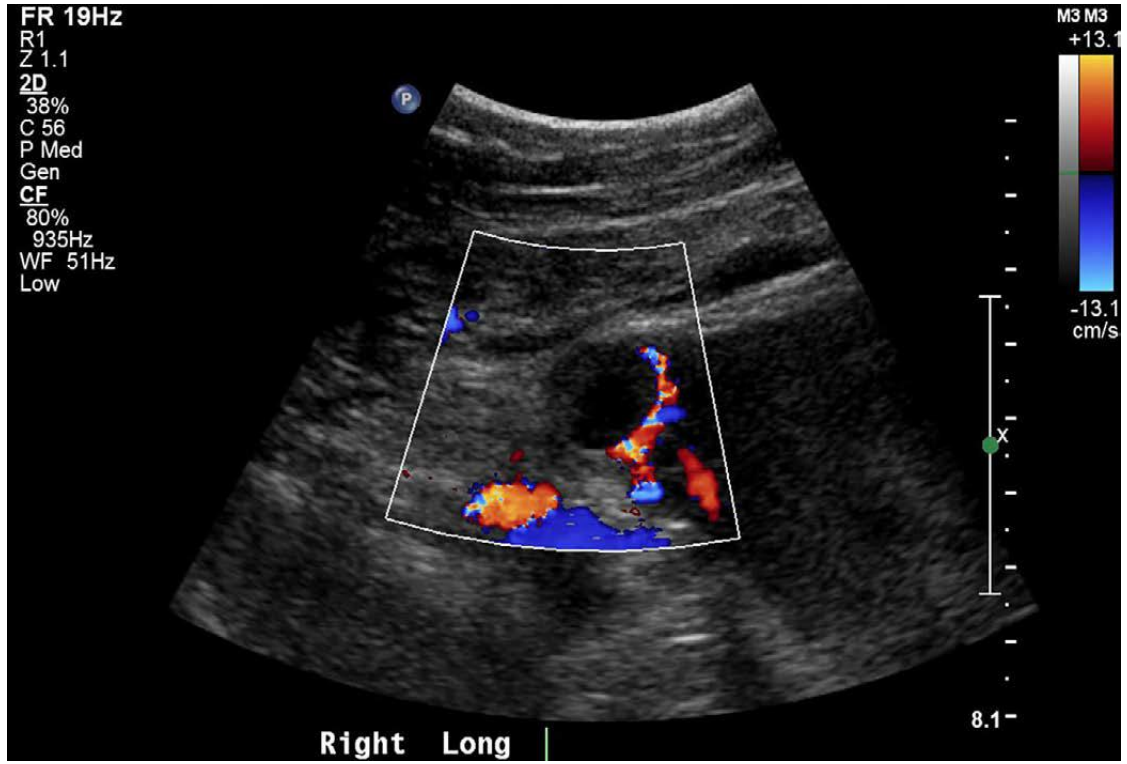
- Ultrasound – TVS
- To establish location of the pregnancy
- Should identify an ectopic pregnancy rather than the absence of an IUP
- Presence of an adnexal mass or free fluid in the abdomen – fluid easily seen in the Pouch of Douglas

Ultrasound images of an ectopic pregnancy

Ectopic pregnancy seen as a complex echogenic mass (representative of a haematoma) next to the ovary.

(Lee R, et al. Ultrasonography 2018;37:78-87)

Ultrasound images of an ectopic pregnancy



Tubal ring sign

An adnexal mass with echogenic ring; colour Doppler image shows increased vascularity in the echogenic ring.

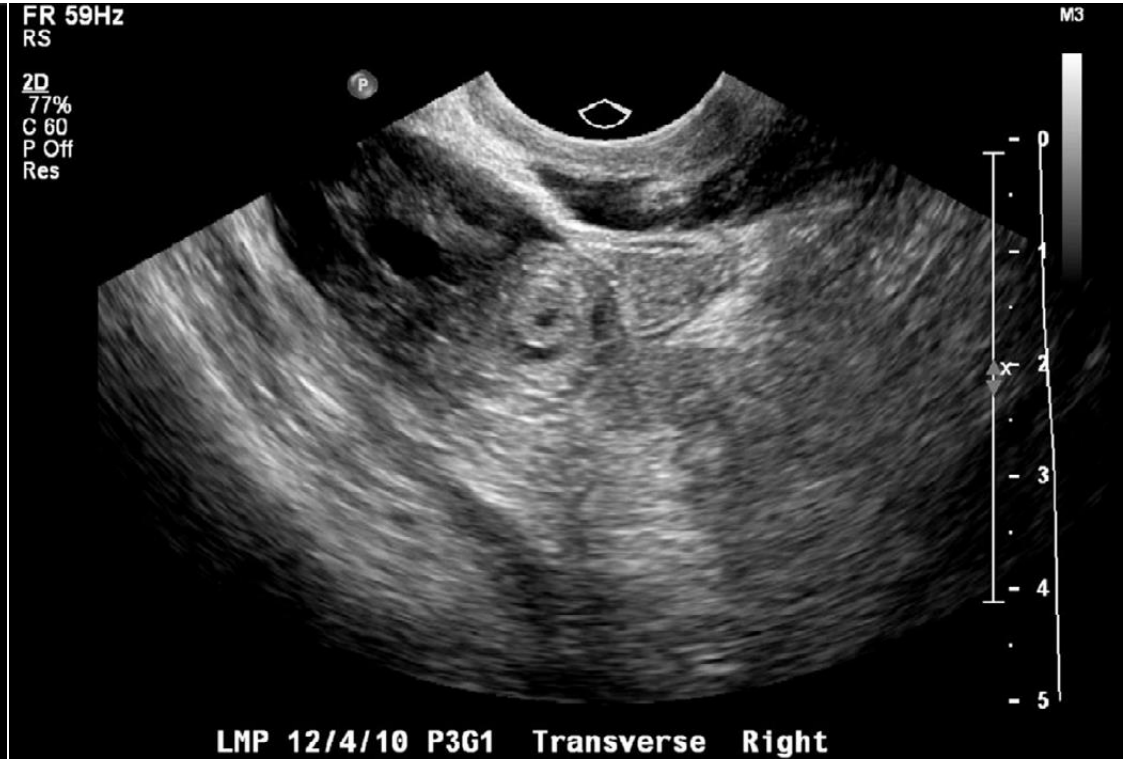
(Lee R, et al. Ultrasonography 2018;37:78-87)

Ultrasound images of an ectopic pregnancy

Fluid in the Pouch of Douglas

(Lee R, et al. Ultrasonography 2018;37:78-87)

Ultrasound images of an ectopic pregnancy



Pseudogestational sac in an ectopic pregnancy: A small amount of free fluid is seen within the endometrial cavity, without evidence of a yolk sac or embryo. It is irregularly-shaped and centrally located, rather than in the eccentric location often seen with a normal gestational sac. Right adnexal mass with an echogenic ring – ectopic pregnancy.

(Lee R, et al. Ultrasonography 2018;37:78-87)

Pregnancy of unknown location

Where there is no sign of an IUP, ectopic pregnancy, or RPOCs in the presence of a positive pregnancy test

Possible outcomes:

- Early IUP
- Ectopic pregnancy
- Complete miscarriage
- Failing pregnancy of unknown location (PUL)
- Very, very rarely another source – hCG secreting tumours

Pregnancy of unknown location

Presentation:

- Asymptomatic
- PV bleeding
- Abdominal pain

- Even if history is suggestive of a complete miscarriage, classify as a PUL until evidence of an IUP

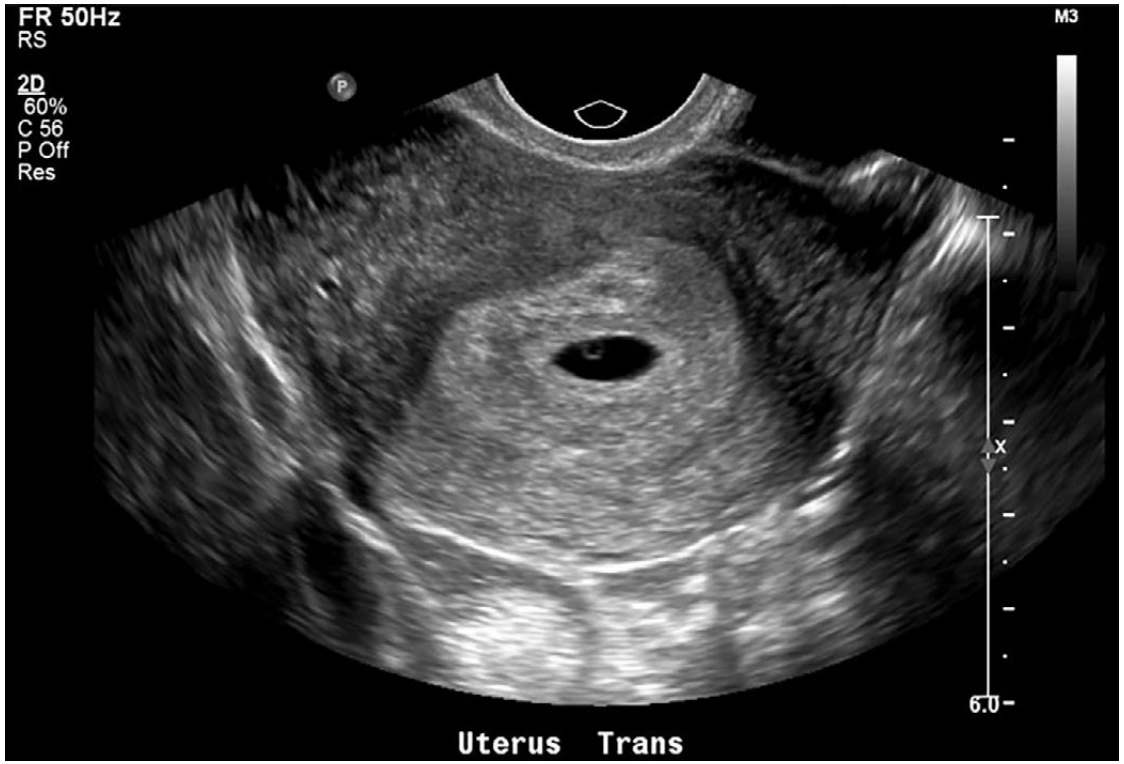
- 5-10% of complete miscarriages diagnosed on history alone with an empty uterus on US, will in fact be ectopic pregnancies

Pregnancy of unknown location

Serum ßhCG

- A rise of ≥66% suggests an IUP
- A suboptimal rise is suspicious, but not diagnostic of an ectopic pregnancy
- At serum ßhCG ≥1500IU, an IUP should be seen – a guide only
- NB – the rate of change more important than any one value

Early pregnancy



TVS – an intrauterine gestational sac is seen with a yolk sac. No embryo is yet visualized in this patient with an early pregnancy, at approximately 5-6 weeks.

MISCARRIAGES

Miscarriages

- **Definition:** expulsion of a pregnancy, embryo, fetus or products of conception before 24 weeks
- Majority are before 12 weeks

Presentation:

- Amenorrhoea
- PV bleeding
- LAP
- ±products of conception passed

Classification and diagnosis of miscarriages

Type of miscarriage	Clinical findings	Ultrasound findings
Threatened	Bleeding ± LAP Closed cervix	Intrauterine gestational sac Fetal pole; fetal heart activity
Complete	History of PVB and LAP Closed cervix	Empty uterus Endometrial thickness <15mm
Incomplete	Bleeding ± LAP Open cervix	Heterogenous tissue ± gestational sac. Any endometrial thickness
Inevitable	Bleeding ± LAP Open cervix	Intrauterine gestational sac ± fetal pole ± fetal heart activity

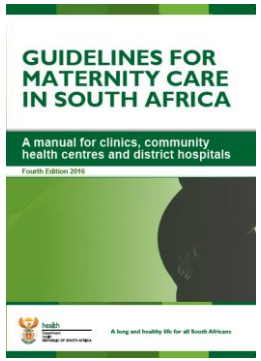
Classification and diagnosis of miscarriages

Type of miscarriage	Clinical findings	Ultrasound findings
Missed miscarriage/ early fetal loss	± Bleeding ± LAP ± loss of pregnancy symptoms Closed cervix	Fetal pole >7mm with no fetal heart activity Mean gestational sac with diameter >25mm with no fetal pole or yolk sac
Pregnancy of uncertain viability	± Bleeding ± LAP Closed cervix	Intrauterine gestational sac <25mm with no fetal pole or yolk sac. Fetal echo with CRL <7mm with no fetal heart activity
Pregnancy of unknown location	± Bleeding ± LAP Closed cervix	Positive pregnancy test Empty uterus. No sign of extrauterine pregnancy

Safe miscarriage

Safe miscarriage
Normal vital signs:
• Pulse rate <90 beats per minute
• Respiratory rate <20 breaths per minute
• Temperature <37.5°Celsius
• Haemoglobin ≥10g/dl
Uterus <12 weeks in size
Products of conception not foul smelling
No clinical signs of infection
No suspicious findings on evacuation of the uterus

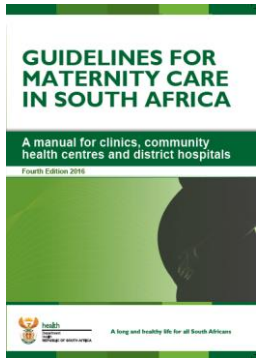
Can be managed in a district hospital.



Unsafe miscarriage

Signs of organ dysfunction with miscarriage
Systolic blood pressure <90mmHg
Respiratory rate >24 breaths per minute
Oliguria (urine output <30mL for 2 hours despite fluid load)
Signs of tissue hypoperfusion: • Altered mental status • Decreased capillary filling

Needs referral for specialist care



PUERPERAL SEPSIS

Puerperal sepsis

Postpartum infection of the upper genital tract

- May involve the endometrium, myometrium, operative incisions, pelvic peritoneum or the entire peritoneal cavity
- Severe puerperal sepsis is life threatening
- NB: postpartum sepsis may be from other organ involvement

TABLE 3

Common sources of infection in sepsis

Variables	Antepartum	Postpartum
Obstetric	Septic abortion	Endometritis
	Chorioamnionitis	Wound infection
Nonobstetric	Urinary tract infection	Urinary tract infection
	Pneumonia	Pneumonia
	Appendicitis	Gastrointestinal

Society for Maternal-Fetal Medicine. Sepsis during pregnancy and the puerperium. Am J Obstet Gynecol 2019.

Presentation

- Lower abdominal pain and/or abnormal vaginal discharge
- Sub involuted uterus
- Additional symptoms – fever, weakness, and vaginal bleeding
- Early signs can be missed because of atypical presentation or incomplete assessment on admission

Risk factors

Can puerperal sepsis be prevented?

- Caesarean section
- Retained POC
- Prolonged labour; prolonged rupture of membranes
- Traumatic delivery

- Antenatal anaemia
- Immune suppression: HIV infection, DM or chronic use of corticosteroids
- Obesity
- Extensive vulvar warts

Management

- Detailed history
- Full clinical examination – may be other organ involvement
- Diagnosis made on clinical assessment
- Definitive management – 'the golden 1st hour'
  – transfer to the next level of expertise

Mild puerperal sepsis

- Fully awake and alert
- Apyrexial
- HR <100; BP normal
- Mild uterine tenderness without evidence of peritonitis
- Offensive lochia

Severe puerperal sepsis

- Temp ≥37.5°C
- HR ≥100 – HR > SBP – very ill patient
- Abdominal tenderness
- Offensive lochia
- Decreased LOC

Clinical assessment

- Level of consciousness
- Temperature; colour
- HR; BP and respiratory rate; O_2 saturation
- Full physical examination

Clinical assessment

Organ system evaluation

- The big 5: CNS, CVS, respiratory, liver and kidney
- The forgotten 4: haematological, immune, endocrine, and musculoskeletal
- Core 1: urogenital
  - Role of abdominal US and speculum examination of the cervix

Management

- FBC, U&E, blood culture, and urine MCS

- IV fluids Ringer-Lactate, and run at 125-240 mL/hour
- Urinary catheter – monitor urine output

- Start antibiotics within 1 hour of presentation: IV cephalosporin, clindamycin or ampicillin 1-2 g IV, gentamicin 6 mg/kg mg IV, and metronidazole 400 mg orally (or 500 mg IV if vomiting)

- T/F to specialist level of expertise – source control

Management of septic shock

- Treat for septic shock if SBP <90 mmHg with a HR ≥100 in the presence of signs of infection
- Rapid infusion of Ringer-Lactate 1-2 L; oxygen – monitor sats
- Aim for SBP ≥100, or mean arterial BP ≥65, RR< 30/minute, sats >90%
- Consider adding vasopressor and emergency blood transfusion
    - Transfer to specialist level of expertise as soon as STABLE

Management

- After antibiotics are initiated and cultures obtained, a search should begin for a focus of infection amenable to SOURCE CONTROL
- Fluid resuscitation part of initial intervention if hypotension or hypoperfusion is present
- Fever, venodilation, and capillary leakage all lead to inadequate preload in the patient with sepsis
- Avoid fluid overload – RISK OF PULMONARY OEDEMA

. https://doi.org/10.1016/j.ajog.2019.01.216

REVIEW
O&G Forum 2018; 28:9-12

Too little, too late: The recurrent theme in maternal deaths due to sepsis

Sylvia Cebekhulu[1], Laura Cornelissen [2], Robert Pattinson[1]
[1]SAMRC/UP Maternal and Infant Health Care Strategies Unit, Department of Obstetrics and Gynaecology, Kalafong Hospital, University of Pretoria,South Africa
[2]Department of Obstetrics and Gynaecology, Kalafong Hospital, Pretoria and UZ Leuven, Belgium

Aimed to characterise risk factors for septic deaths (2014-2016) in the South African obstetric population and to assess whether real-life clinical management is compliant with current international treatment guidelines

Box 1: Key findings

- Hb was not recorded in 73%
- MUAC was not recorded in 68%
- 79% were not given prophylactic antibiotics before CS
- 77% had inadequate or no fluid resuscitation
- Temperature was never measured in 39%
- 48% of all antibiotics were started too late
- Only 26% of women had cultures sent off
- 28% had a hysterectomy done as source control

In the antenatal card

O&G Forum 2018; 28:9-12

Society for Maternal-Fetal Medicine
High-risk pregnancy experts

SMFM Consult Series

smfm.org

SMFM Consult Series #47: Sepsis during pregnancy and the puerperium

Society for Maternal-Fetal Medicine (SMFM); Lauren A. Plante, MD, MPH; Luis D. Pacheco, MD; Judette M. Louis, MD, MPH

APRIL 2019 . https://doi.org/10.1016/j.ajog.2019.01.216

Sequential Organ Failure Assessment score (SOFA)

- To assist in evaluation of suspected sepsis – brief bedside assessment tool known as the quick SOFA score (qSOFA)
- Evaluates the presence of 3 clinical criteria: SBP ≤100mmHg, RR ≥22 and altered mental status (GCS<15)
- If ≥2 of these criteria are present, patient is at increased risk for poor sepsis-related outcomes
- Fever is NEITHER NECESSARY NOR SUFFICIENT to determine whether sepsis is present

. https://doi.org/10.1016/j.ajog.2019.01.216

Conclusion

- LAP in a women of childbearing age could be due to a variety of causes, BUT,

'All women of reproductive age are pregnant until proven otherwise, and it is ectopic until clearly demonstrated to be intrauterine.'

Oxford Handbook of Obstetrics and Gynaecology

- Complications due miscarriages, ectopic pregnancies and pregnancy-related sepsis remain part of the leading causes of avoidable maternal deaths

GAUTENG
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

GGT2030
GROWING GAUTENG TOGETHER

Thank you…