SCGH Emergency Department – Management of first trimester lower abdominal pain and/or vaginal bleeding

Assessment

- Assess haemodynamic state
- Confirm pregnancy
- Consider pregnancy location
  - Has the patient previously had an USS of this pregnancy (must sight report)
  - Consider the possibility of heterotopic pregnancy (IVF / fertility treatment – see notes)
- Check Rhesus blood group status
- Always consider non pregnancy related causes for presentation

Differential diagnosis

Intrauterine pregnancy	No intrauterine pregnancy	Alternate (non-pregnancy) source of abdominal pain and/or PV bleeding
•Threatened miscarriage •Miscarriage •Heterotopic pregnancy •Molar pregnancy •Interstitial ectopic •Cervical or C-scar ectopic	•Miscarriage •Threatened miscarriage in very early pregnancy •Ectopic pregnancy	

Management

Shocked patient

- Resuscitation bay
- Urgent IV access x 2
- FBE / U+E / X match / QβhCG
- Urgent bedside USS to assess for intraperitoneal free fluid +/- pregnancy location

Intraperitoneal free fluid

Stabilise
- Hypotensive resuscitation

Referral
- Urgent involvement of O&G Consultant and General Surgery regarding site for OT (SCGH vs KEMH)
  - Site dependant on patient stability and suitability for transfer
  - Decision lies with the senior ED doctor

No intraperitoneal free fluid

Stabilise

Assess for other causes of shock
- Speculum to assess for / remove cervical products
  - Send products for histopathology

Once stabilised
- Arrange ultrasound (if pregnancy location not identified at bedside USS)

Follow up
- If available ED US Consultant will arrange follow up based on USS findings
- If ED US Consultant not available liaise with O&G Reg at KEMH re disposition

Stable patient

Ultrasound available
Note – decision to ultrasound should not be based on QβhCG level (see notes)

Yes

Arrange ultrasound with ED US Consultant

Other investigations
- QβhCG (requirement determined by USS finding)
- Confirm Rh status
  - Rh neg and PVB treat with IM RhD-Ig 250 IU (625 IU for a multiple pregnancy)

Follow up
- ED US Consultant will arrange appropriate follow up based on USS findings

No

Other investigations
- QβhCG (not required if known IUP – must sight report)
- Confirm Rhesus status
  - Rh neg and PVB treat with IM RhD-Ig 250 IU (625 IU for a multiple pregnancy)

Follow up
- If no previous ultrasound
  - Stable patients are generally safe for discharge with EPAS clinic follow up the next morning
- If previous ultrasound confirming IUP
  - Stable patients are safe for discharge with appropriate EPAS or GP follow up
- If significant ongoing pain or PVB the patient should be referred to KEMH

IUP – intrauterine pregnancy
QβhCG – quantitative beta human chorionic gonadotrophin
EPAS – early pregnancy assessment service at KEMH (appointments can be arranged through the Emergency Centre Midwife – 9340 1431)
Rh – Rhesus blood group
RhD-Ig – RhD immunoglobulin (formerly known as anti D)
PVB – per vaginal bleeding
Note – this guideline applies to SCGH Emergency Department that has Diploma of Diagnostic Ultrasound qualified Emergency Physicians providing a diagnostic ultrasound service

Notes

Definitions

Ectopic – a pregnancy in which the fertilized ovum implants in a location other than the endometrium of the fundus or body of the uterus (1)

•Tubal ectopics – account for approximately 95% and are located within the ampullary or isthmic portions of the fallopian tube

•Non tubal ectopics – account for approximately 5% and comprise; interstitial (intramural part of the fallopian tube), cornual (occurring in a unicornate, bicornate or septate uterus), cervix, C section scar, ovarian and abdominal

Heterotopic – intrauterine and extrauterine pregnancies occurring simultaneously (1,2)

•Exact incidence not known, estimated to be approximately 1 per 30000 in natural conception pregnancies

•Incidence may be as high as 1 per 100 in assisted reproduction pregnancies (particularly ovulation induction). As such these patients should undergo assessment for an additional ectopic pregnancy even if an IUP is identified

Incidence

•Ectopic pregnancy accounts for approximately 2% of all pregnancies however the prevalence among symptomatic pregnant patient's presenting to the emergency department is approximately 6-16% (3,4)

•It is the most common cause of pregnancy related mortality in the first trimester (5)

Risk Factors

•A number of factors have been associated with an increased likelihood of ectopic pregnancy. However risk factors are only identified in approximately 50% of cases (3)

- •High risk
  - •Previous ectopic
  - •Tubal surgery / failed tubal ligation
  - •Documented tubal pathology / damage
  - •Failed IUCD
- •Moderate risk
  - •History of infertility
  - •Previous PID
  - •Smoking
  - •Multiple sexual partners
  - •Assisted reproduction
- •Low risk
  - •Previous pelvic / abdominal surgery
  - •Early age at first sexual intercourse
  - •Vaginal douching

•Clinical symptoms typically occur between 6-8 weeks after last normal menstrual period. Non tubal ectopics may present later

- •Typical triad –PVB, abdominal pain, amenorrhoea
  - •Ectopic is more likely if the pain is disproportionately more severe than PVB whereas intrauterine pregnancy is more likely if the PVB is more severe than the pain (3)
- •Symptoms may be variable or absent. Therefore ectopic pregnancy must be considered in women of reproductive age with
  - •Dizziness / syncope
  - •Shoulder tip pain
  - •GI symptoms such as diarrhoea or pain with defaecation

Signs

•Variable, can range from normal examination to shock

Diagnosis / Investigations

Ultrasound (TVUS – transvaginal ultrasound)

Is the most useful primary investigation for determining pregnancy location (3,6,7,8)

•Sensitivity ~98% and specificity 100% for IUP

•Sensitivity ~85% and specificity ~99% for ectopic

QβhCG

The discriminatory zone βhCG (1500IU/L) is defined as the serum βhCG level above which a gestational sac should be visualised by TVUS (3)

It should not be the primary investigation to determine if TVUS should be performed or not as using this approach approximately half of ectopic pregnancy diagnoses are missed at initial presentation (9)

When TVUS is inconclusive serial βhCG levels are generally required to guide further management (10)

•In early viable IUPs serum βhCG should approximately double every 48hrs

- •In 85% of viable IUPs the serum βhCG rises by at least 66% every 48hrs

Rh Immunoglobulin – RhD-Ig (formerly known as anti D) (11)

•Commercial preparation of human anti-RhD

•Given with the aim of reducing the risk of maternal sensitisation to foetal Rh (D) positive red blood cells

•Rh(D) blood group incompatibility between a Rh(D) negative woman and her Rh(D) positive foetus may cause alloimmunisation against the Rh(D) antigen. A sensitised woman may develop immune anti-D which can cross the placenta bind to and destroy foetal Rh(D) positive red blood cells. This can result in anaemia, foetal hydrops and haemolytic disease of the newborn

•First trimester indications

- •Miscarriage – threatened / incomplete or complete / missed
- •Termination of pregnancy
- •Ectopic pregnancy
- •Chorionic villus sampling

•For recurrent bleeds in an ongoing pregnancy the dose will be effective for a period of 6 weeks up to and including 12 weeks gestation

- •A subsequent miscarriage or a procedure requiring instrumentation of the uterus requires an additional dose of RhD-Ig irrespective of when the first dose was given

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