Ectopic Pregnancy Management MATY041	
1. **Type:** Guideline	2. HDSS Certification Standard:
3. **Issued by:** Maternity PPG Group	4. **Version:** 1.0
5. **Applicable to:** Hutt Valley DHB	6. **Contact person:** CHOD O&G
7. **Lead DHB:** Hutt Valley DHB	8. **Level:**

Hutt Maternity Policies provide guidance for the midwives and medical staff working in Hutt Maternity Services. Please discuss policies relevant to your care with your Lead Maternity Carer.

Purpose:

The purpose of this guideline is to provide evidence based guidance on the diagnosis and management of ectopic pregnancy for pregnant people and practitioners within Hutt Valley DHB (HVDHB).

These guidelines reflect the most recent recommendations from the National Institute of Clinical Excellence (NICE), 'Ectopic pregnancy and miscarriage: diagnosis and initial management' published in April 2019, and the NZ Obstetric ultrasound guidelines published in December 2019.

This guideline replaces Hutt Maternity Policy "Ectopic Pregnancy, Including Methotrexate Administration Protocol Management" (MATY041)

Management of all other early pregnancy issues are covered in Early Pregnancy Management guideline (MATY148)

Scope:

For the purposes of this document, staff will refer to:

All staff within Hutt Valley DHB. This includes staff not working in direct contact with patients/consumers. Staff are taken to include anyone engaged in working to the Hutt Valley DHB. This may include but is not limited to:

- Employees irrespective of their length of service
- Agency workers
- Self-employed workers
- Volunteers
- Consultants
- Third party service providers, and any other individual or suppliers working in Hutt Maternity, including Lead Maternity Carers, personnel affiliated with third parties, contractors, temporary workers and volunteers
- Students

Contents

Abbreviations and Definitions:

Ectopic pregnancy any pregnancy that has implanted outside of the endometrial cavity, 95% are in the fallopian tube. However, they can occur in other locations such as the ovary, cervix and abdominal cavity.

Heterotopic pregnancy there is both an intrauterine and extrauterine pregnancy

Early pregnancy Up to 13 weeks gestation

PUL	Pregnancy of unknown location: positive βhCG with no evidence of a pregnancy being intrauterine or extrauterine on transvaginal ultrasound scan
TVUSS	transvaginal ultrasound scan
βhCG	beta human chorionic gonadotrophin
SHO	Senior House Officer
IUP	intrauterine pregnancy
SMO	Senior Medical Officer
LMC	Lead Maternity Carer
EPAC	Early Pregnancy Assessment Clinic
RMO	Resident Medical Officer (includes both SHO and Registrar)

Incidence

- The incidence of ectopic pregnancy is 1 per 100 pregnancies (RCOG 2016, Hajeinus 2009).The incidence of an ectopic pregnancy is 2-3% amongst people attending an early pregnancy clinic (RCOG 2016).
- Early recognition helps prevent morbidity and mortality.
- **Every anatomical female of reproductive age who is seen in the emergency department with abdominal pain or abnormal vaginal bleeding should have a pregnancy test.**
- The maternal mortality rate is 0.2/1000 ectopic pregnancies in the UK (NICE 2019).
- At least 15% of ectopic pregnancies resolve spontaneously without any intervention (Sagili 2008).
- Ruptured ectopic pregnancy can occur even with declining or very low levels of serum βhCG (<10IU/L) and it has even occurred with negative serum βhCG levels (Sagili 2008).

Risk Factors

- Previous ectopic pregnancy
- Known inflammatory conditions
- IUCD (Intra-uterine contraceptive device)
- IVF (in-vitro fertilization)

- Previous surgery or instrumentation (e.g. caesarean section or tubal ligation)

⚠	About a third of people with an ectopic pregnancy will have no known risk factors (NICE 2019)

Referrals

Obstetric Referral Guidelines ('Section 88') considerations:

9. *Code*	10. *Condition*	11. *Description*	12. *Referral category*
4001	Acute abdominal pain		Consultation

Clinical Diagnosis

Clinical diagnosis may be difficult as the signs and symptoms are often non-specific, common include:

- Abdominal or pelvic pain
- PV bleeding (vaginal bleeding)
- Amenorrhoea / missed period
- Poorly rising serum βhCG
- Adnexal tenderness

Other signs and symptoms (present in up to 70% of cases)

- Signs of haemodynamic instability (e.g. drowsiness, fatigue, pale skin, sweating)
- Peritonism or cervical motion tenderness (concern for rupture)
- Adnexal mass
- Vague discomfort
- No PV bleeding
- Back pain, vaginal pain, bowel symptoms
- Low or normal serum βhCG
- Asymptomatic

Ultrasound Diagnosis of Tubal Ectopic Pregnancy (NICE 2019)

Sonographic features on TV USS **indicating a tubal ectopic**:

- Adnexal mass, moving separately to the ovary, comprising a gestational sac containing a yolk sac or fetal pole (with or without heart beat)

Signs indicating **high probability** of tubal ectopic on TV USS:

- Adnexal mass, moving separately to the ovary with an empty gestational sac
- A complex, inhomogenous adnexal mass, moving separately to the ovary

Signs indicating a **possible** ectopic pregnancy on TV USS:

- No intrauterine gestational sac / empty uterus
- Endometrial pseudogestational sac (seen as a collection of fluid in the uterine cavity)
    - It **will not** have the intradecidual or double decidual sign. A pseudosac cannot be used alone to diagnose an ectopic pregnancy as it is more likely (99.98%) to be an IUP

Free fluid (moderate to large amount) or haemoperitoneum may indicate tubal rupture

A formal USS must always be performed prior to definitive management unless the patient is haemodynamically unstable and requires surgery as a diagnostic procedure and management. The USS results should be interpreted alongside, symptoms, signs and βhCG levels

Strongly recommended that a βhCG result is available at the time of the ultrasound scan

If an ultrasound suggests a ruptured or live ectopic, the sonographer should phone the Gynaecology RMO on duty and arrange for the patient to present to ED for assessment and management.

It is not appropriate for these people to come to EPAC where there is limited emergency equipment should they became unstable.

Management and follow up of Tubal Ectopic

Step	Action
Initial assessment of suspected ectopic	• Assess vital signs • Keep nil by mouth • Urine pregnancy test • IV line and FBC, Group & Hold, Serum βhCG **If haemodynamically unstable in the context of suspected ectopic pregnancy:** ○ Contact O+G Team including SMO to attend the patient ○ Contact theatre and the anaesthetist on call ○ Ensure 2 large bore IV cannula inserted

	○ Give IV Fluid resuscitation ○ Category 1 diagnostic laparoscopy vs laparotomy +/- salpingectomy. Alert theatre staff and anaesthetist ○ Cross match blood 4 units

Expectant Management of Tubal Ectopic Pregnancy	**Expectant Management of Tubal Ectopic pregnancy:** • Expectant management involves following the patient's βhCG level and symptoms until the pregnancy has resolved. No medical intervention takes place • Advise that (based on limited evidence) there is no difference following expectant or medical management in: ○ The rate of ectopic pregnancies ending naturally ○ The risk of tubal rupture ○ The need for additional treatment ○ Health status, depression or anxiety ○ The time taken for ectopic pregnancy to resolve and future fertility outcomes are likely the same with either expectant or medical management ○ Reported success rates range from 57-100%. The lower the starting βhCG the better the chance of success. • **Offer** expectant management as an option only if **ALL** of the following criteria are met; ○ The patient is clinically stable and pain free **AND** ○ The serum βhCG levels are **≤1000IU/L** or falling significantly on serial measurements **AND** ○ The tubal ectopic pregnancy measures <35mm **AND** ○ There is no visible heartbeat on TVUSS **AND** ○ The patient MUST be able to return for follow up and understands the symptoms of a ruptured ectopic • **Consider** expectant management if the above criteria are met and the βhCG levels are **>1000 but ≤1500IU/L**, or βhCG levels are falling appropriately in a stable patient. • **Follow up:** ○ Repeat serum βhCG on **day 2, 4 and 7** after the original test ▪ If the Serum βhCG level **decreases by ≥15%** from the previous value at day 2, 4 and 7 then repeat weekly serum βhCG until a negative result (<5IU/L) is obtained ▪ If the Serum βhCG level **does not decrease ≥15%, it plateaus, or rises** review the patient in early pregnancy clinic for symptoms

	and signs of ectopic pregnancy and seek SMO advice on further management options ○ If the patient develops worsening pain or becomes clinically unstable, they must seek medical attention and are no longer a candidate for expectant management ○ **Provide written information including when to seek help, with a contact phone number (to go to ED after hours)**
Medical Management: Methotrexate	**Medical Management of Ectopic Pregnancy:** • Medical management involves administering methotrexate IM ○ Methotrexate works by stopping cell turnover by inhibiting folate dependent steps in nucleic acid synthesis. ○ Discuss with SMO prior to methotrexate administration • **Offer systemic methotrexate** to women/pregnant people who fit the below criteria: ○ The patient has no significant pain **AND** ○ The tubal pregnancy is unruptured, the adnexal mass is <35mm and there is no fetal heart beat **AND** ○ The serum βhCG is ≤1500IU/L **AND** ○ There is no IUP confirmed on USS **AND** ○ There are no other contraindications (see below) **AND** ○ The patient is able to return for follow up and understands symptoms of a ruptured ectopic • **Offer a choice of either methotrexate or surgical management** to women/pregnant people who fit the below criteria: ○ The above criteria is satisfied but the serum βhCG is **between 1500IU/L and 5000IU/L** Patients must be **adequately counselled** about the use of methotrexate: ○ Success rates of single dose methotrexate for tubal ectopic pregnancy range from 65-95% ○ Up to 75% of people will experience abdominal pain between days 3-7 after Methotrexate ○ Risk of tubal rupture is 7% ○ 3-27% of people require a second dose ○ During treatment with Methotrexate people should be advised to avoid alcohol and folate-containing vitamins **Contraindications to Methotrexate:** ○ Breastfeeding ○ Known sensitivity to methotrexate ○ Chronic liver disease ○ Pre-existing blood dyscrasia ○ Active pulmonary disease ○ Immunodeficiency ○ Peptic ulcer disease

- **Predictors for success of methotrexate**:
  - Lower βhCG levels
  - No yolk sac or fetal pole on ultrasound image
  - No gestational sac on ultrasound image
  - Small incremental increases in serum βhCG prior to methotrexate administration
  - Decrease in serum βhCG levels between day 1 to 4

- **Common adverse effects** include:
  - Excessive flatulence and bloating, transient mild elevation in liver enzymes and stomatitis

- **Serious adverse effects** include:
  - Marrow suppression, pulmonary fibrosis, nonspecific pneumonitis, liver cirrhosis, renal failure and gastric ulceration.

- **Pregnancy needs to be avoided for 3 months following administration. Prescribe contraception immediately. Prescribe folic acid to commence at 2 months post methotrexate**
  - Any method of contraception can be safely started immediately after methotrexate administration (IUCD should not be inserted if sepsis is suspected)
  - Additional contraceptive precautions (i.e. barrier) are not required if contraception is initiated immediately or within 5 days of treatment of ectopic pregnancy (FSRH 2017)

- **Methotrexate can cause photo sensitivity, it is recommended to avoid prolonged exposure to strong sunlight for 7 days after treatment**

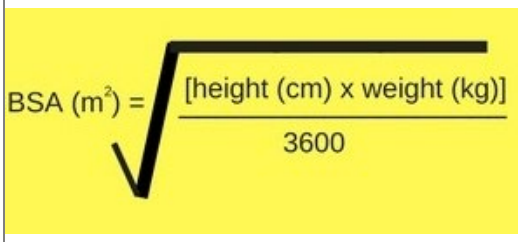
- **Avoid alcohol, herbal remedies and folate for 7 days**

Methotrexate should never be given at the first appointment, unless the diagnosis of ectopic pregnancy is absolutely clear and a viable intrauterine pregnancy has been excluded. If the ectopic is seen on ultrasound as an inhomogenous mass, the serum βhCG must be repeated in 48 hours.

- If the serum βhCG drops, then expectant management may be appropriate
- If the serum βhCG rises at a rate consistent with an IUP then a repeat scan must be done to check the diagnosis before administrating methotrexate.
- If the serum βhCG rises but not at a rate consistent with an IUP clinical review is required

Process of giving methotrexate:

- Explain the treatment and provide written information
- Collect blood for βhCG , U&Es, LFTs, FBC and a blood group prior to administration
- The **dose of methotrexate is 50mg per m^2** as a single intramuscular injection i.e. 50mg x BSA (body surface area)
  - **Obtain height and weight**
- Obtain written consent
- This is to be administered in early pregnancy clinic or on GSG after discussion about its method of action, side effects and follow up regime



- **Follow up:**
  - **The day the methotrexate is given is day 1**
  - Serum βhCG on day 4 and on day 7 Serum βhCG/LFTs/U's & E's and FBC after treatment to be followed up by EPAC midwife/nurse
    - If the serum βhCG level decreases by ≥15% between days 4 and 7
      - Weekly serum βhCG thereafter until the result is <5IU/L. Average time is 35 days.
    - If serum βhCG levels decrease by <15%, plateau or rise between days 4 and 7
      - Reassess the patient's condition in early pregnancy clinic and a repeat TVUSS should be considered to exclude ectopic fetal cardiac activity and the presence of significant haemoperitoneum.
      - Consideration can then be given to a second dose of methotrexate if the patient still fulfils criteria for medical management
      - Discuss management with SMO
  - NB - It is common for the serum βhCG to rise between days 1 and 4
  - If day 4 or 7 falls on a Sunday or public holiday, the patient should present to the GSG ward at 0800 on the Sunday/public holiday for their serum βhCG to be taken by the ward phlebotomist, the result can then be followed up by EPAC on the morning of the next clinic day
  - On day 14 βhCG /LFTs/U's & E's and FBC – to be followed up by EPAC.

	○ **If new symptoms/concerns for rupture the person must urgently seek medical attention** • **On discharge:** ○ Discharge summary to be completed and sent to the GP ○ Provide contact phone numbers and outline follow-up plan ○ Discuss contraception and precautions (as above)
Surgical Management	**Surgical Management of Tubal Ectopic Pregnancy:** • Laparoscopy is preferable to laparotomy (taking into account the condition of the patient and complexity of the procedure). ○ **Do not instrument uterus until confirmed ectopic on scan or laparoscopy.** • In those who have a healthy contralateral tube salpingectomy is preferred as salpingotomy doesn't significantly improve fertility (RCOG 2016). • In those people who have an unhealthy contralateral tube, previous ectopic pregnancy, previous abdominal surgery or Pelvic Inflammatory Disease fully discuss the options of salpingotomy vs salpingectomy. If salpingotomy is performed: ○ 1 in 5 may require further treatment – either methotrexate or salpingectomy (NICE 2019). ○ High rates of subsequent intrauterine pregnancy have been found if salpingotomy is performed rather than salpingectomy with a history of fertility-reducing factors (RCOG 2016. ○ Persistent trophoblastic disease occurs more frequently if salpingotomy is performed (RCOG 2016). • **Offer surgical management** as first line treatment to those who are unable to return for follow-up after methotrexate or who have **ANY** of the following: ○ Ectopic pregnancy and significant pain ○ Haemodynamically unstable ○ The tubal pregnancy is ruptured ○ Ectopic pregnancy with adnexal mass >35mm or fetal heart beat visible on USS ○ The serum βhCG is >5000IU/L **Process for surgical management** ○ Explain the treatment and provide written information ○ Collect pre-treatment bloods (i.e. βhCG, group and hold & FBC) and administer Anti-D to people who are Rhesus negative (alternately Anti-D can be administered in theatre)

	○ Arrange admission to the ward post-surgery ○ RMO to arrange: ▪ Written consent ▪ Discuss all potential theatre cases with the SMO on duty ▪ Phone theatre co-ordinator and book case on the acute list on Concerto ▪ Inform duty anaesthetist • **Follow up / discharge** ○ Salpingectomy: Urine pregnancy test after 3 weeks unless histology confirms ectopic pregnancy. Return to early pregnancy clinic if this test is positive. ○ Salpingotomy: Start weekly βhCG levels from 7 days after surgery until a negative result is obtained (<5IU/L) ○ Post-operative care should be outlined on the discharge summary, including when to seek medical attention ○ Advise patient of increased risk of future ectopic at 10-11% and therefore need of early scan in future pregnancies ○ Provide contact phone numbers

NOTE: General management Considerations

- Be aware that pregnant people will react to complications or the loss of pregnancy in different ways, provide all information and support in a sensitive manner
  - Offer additional support and counselling if wanted including information leaflets, helplines or websites
- People should be involved in their choice of management.
- Give all people with an ectopic pregnancy oral and written information including:
  - Treatment options (**expectant, medical, surgical)**
  - What to expect during and after treatment
  - How to contact a healthcare professional for advice during or after treatment if needed
  - When and where to get help in an emergency

NOTE: Anti –D Rhesus Prophylaxis

- Offer Anti D at a dose of 250IU IM to all rhesus negative people with an ectopic pregnancy in the first trimester
- There is no need to do a Kleihauer test.

⚠ Alloimmunisation has been reported in 25% of cases of ruptured tubal ectopic pregnancies

Non-Tubal Ectopic Pregnancy (BJOG/RCOG 2016)

All of the guidance below comes from the 2016 Green-top Guideline: Diagnosis and Management of Ectopic Pregnancy which can be referred to for further information.

All cases of suspected cervical, caesarean scar, interstitial, cornual, ovarian, heterotopic, or abdominal ectopic must be discussed with the SMO on call.

These ectopic pregnancies are rare and management is likely to be individualised.

Diagnosis	Assessment and Management
Cervical Ectopic	Cervical pregnancies are rare, accounting for <1% of all ectopic pregnancies. ⚠ **Clinicians to arrange scan for confirmation of the diagnosis through MFM CCDHB** – if the patient is stable before treatment is offered/discussed • **Ultrasound criteria** – the following features have been described on USS with a cervical pregnancy o Empty uterus o Barrel shaped cervix o Gestational sac present below the level of the internal cervical os o Absence of the 'sliding sign' o Blood flow around the gestational sac using colour Doppler The 'sliding sign' distinguishes cervical ectopics from miscarriages that are within the cervical canal. When the ultrasound probe is used to apply pressure to the cervix, a cervical ectopic will not move whereas a gestational sac that is part of a miscarriage will slide against the endocervical canal. • **Bloods** o A single serum βhCG is useful to help with the diagnosis o If the serum βhCG >10,000IU/L Methotrexate is unlikely to be successful. **Management of Cervical pregnancy:** Systemic methotrexate can be considered for management of cervical pregnancy. The efficacy is thought to be about 91% (from one retrospective review of 62 cases). However, there was no standardised protocol and successful cases also required surgical debulking or local injection with methotrexate into the embryo or fetus. **See "medical management of ectopic pregnancy" above for further information about methotrexate use.**

	Gestational age >9/40, βhCG levels >10,000IU/L, CRL >10mm and fetal cardiac activity are shown to be associated with higher risk of failure after a single dose of methotrexate. If treatment of cervical ectopic pregnancy results in severe haemorrhage, uterine artery ligation and uterine artery embolization can be used. Surgical management tends to result in significant blood loss and risk to life, as well as having a high failure rate. Surgical management should be reserved for those with life-threatening bleeding.
Caesarean scar Ectopic	A caesarean pregnancy is implantation of the pregnancy into a myometrial defect where a previous uterine incision has been made. The prevalence is 1/2000 pregnancies (although may actually be higher because some will end in miscarriages or terminations). If the pregnancy progresses out into the uterine cavity there is a potential to reach a viable gestational age but there is a risk of massive bleeding from the implantation site. If the pregnancy progresses deeper towards the serosal surface of the uterus there is risk of uterine rupture in first trimester. • **Ultrasound criteria** o Empty uterine cavity o Gestational sac or solid mass of trophoblast located anteriorly at the level of the internal os (at the site of the previous lower uterine segment caesarean section scar) o Thin or absent layer of myometrium between the gestational sac and the bladder o Evidence of prominent trophoblastic / placental circulation on Doppler examination o Empty endocervical canal The criteria for diagnosing caesarean pregnancy has been developed from case series and has not been subject to validation. MRI can be used for further imaging of suspected caesarean scar pregnancies if the diagnosis is equivocal. • **Bloods** o No serum βhCG is usually required for diagnosis

	Management of a Caesarean scar pregnancy: Such pregnancies are associated with significant maternal morbidity and mortality. There is insufficient evidence to recommend one specific intervention but the current literature supports a surgical approach over a medical approach as the most effective. Prior to 2016, there were 35 cases of caesarean scar pregnancy diagnosed in the first trimester that resulted in an ongoing pregnancy in the UK. There were 27 live births and 22 pregnancies ended with an emergency hysterectomy due to haemorrhage or a morbidly adherent placenta, at gestational ages between 15 and 38 weeks. **Expectant:** **Expectant management** may be suitable for people with small, nonviable scar pregnancies and may be considered if the pregnancy is partially implanted into the scar and grows into the uterine cavity. There is a risk of haemorrhage or morbidly adherent placenta. **Surgical:** **Surgical treatment** can be either suction or hysteroscopic resection or excision of the pregnancy as an open, laparoscopic or transvaginal procedure. **Medical:** **Methotrexate** is the primary medical treatment and may be administered via local injection into the gestational sac under ultrasound guidance or systemically by intramuscular injection. Local injection tends to result in a higher rate of success. There is a risk of haemorrhage following methotrexate administration so some studies advocate for suction evacuation following the dose of methotrexate. **See "medical management of ectopic pregnancy" above for further information about methotrexate use.** The management of caesarean scar pregnancies diagnosed in the second trimester is more challenging. The risk of surgical intervention needs to be weighed against the risks of allowing the pregnancy to continue to reach a viable gestational age.
Interstitial Ectopic	Interstitial pregnancy is when the ectopic pregnancy implants in the interstitial part of the fallopian tube. The interstitial part of the tube traverses through the myometrium and opens into the uterine cavity. • **Ultrasound criteria** o Empty uterine cavity o Products of conception / gestational sac located laterally in the interstitial part of the tube and surrounded by <5mm of myometrium in all imaging planes

	○ The 'interstitial line sign' – thin echogenic line extending from the central uterine cavity echo to the periphery of the interstitial sac. Sensitivity of 80% and specificity of 98% for the diagnosis of an interstitial pregnancy. MRI can be helpful to visualise further • **Bloods** ○ A serum βhCG should be done at diagnosis. It may be useful for deciding which management option to go for. **Management of an Interstitial pregnancy:** **Expectant:** • Only suitable for stable people with low or significantly falling βhCG levels **Medical:** • Methotrexate has proven to be effective. Insufficient evidence to suggest local or systemic approach. • Shown to be more effective at lower βhCG levels • In observational data the same dose as in tubal ectopic pregnancies has been used – 50mg/m^2 IM. **See "medical management of ectopic pregnancy" above for further information about methotrexate use.** Other regimes have also shown success. • There are some case series that treat interstitial pregnancies with intrasaccular injection of methotrexate. This has an advantage in that there is the ability to perform embryocide at the same time and has shown to improve the success rate **Surgical :** • Laparoscopic cornual resection or salpingotomy are an effective option • Alternative techniques include hysteroscopic resection under laparoscopy or ultrasound guidance
Cornual Ectopic	Cornual pregnancy is a pregnancy that has implanted in one lateral half of a uterus with bifid tendency (congenitally abnormal uterus). Incidence is 1/76000 pregnancies. ⚠ **Clinicians to arrange scan for confirmation of the diagnosis through MFM CCDHB** – if the patient is stable before treatment is offered/discussed • **Ultrasound** ○ Visualisation of a **single** interstitial portion of fallopian tube in the main uterine body

	○ Gestational sac / products of conception seen mobile and separate from the uterus and completely surrounded by myometrium ○ A vascular pedicle adjoining the gestational sac to the unicornuate uterus • **Bloods** ○ A single serum βhCG at diagnosis to aid decision making about management **All cases of suspected cornual pregnancy must be discussed with the SMO on call.** **Management of a Cornual pregnancy:** Cornual pregnancies should be managed by excision of the rudimentary horn via laparoscopy or laparotomy. • Prior injection with Methotrexate and potassium chloride has been reported.
Ovarian Ectopic	An ectopic pregnancy that is located in the ovary • **Ultrasound criteria** There are no specific agreed criteria for the ultrasound diagnosis of ovarian ectopic pregnancy. Findings suggestive of an ovarian pregnancy include: ○ Empty uterus ○ Wide echogenic ring with an internal anechoic area on the ovary ○ A yolk sac or embryo is seen uncommonly ○ Negative sliding organ sign: the mass is not seen separate to the ovary with palpation of the TVUSS probe ○ The corpus luteum should be identified separately ○ Colour Doppler can be used to identify a fetal heart beat ○ Free fluid in the pouch of douglas with a complex echogenic adnexal mass It is difficult to distinguish an ovarian pregnancy from corpus luteal cysts, tubal ectopics stuck to the ovary, a second corpus luteum, ovarian germ cell tumours and other ovarian pathologies. The diagnosis is usually confirmed surgically and histologically. • **Bloods** ○ A single serum βhCG at diagnosis to aid decision making about management

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Management of Ovarian pregnancy:

Surgical :

- Often surgery is required for the diagnosis of an ovarian ectopic and therefore definitive surgical treatment is preferred if this is the case
  - Removal of the products by enucleation or wedge resection is preferred
  - Oophorectomy is occasionally required if there is other ovarian pathology or excessive bleeding.

Medical:

- Systemic methotrexate can be used if the surgical risks are deemed high. It can also be used postoperatively if there is persistently raised βhCG levels.
  - There is no defined selection criteria, treatment or follow-up regimen.

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<tr><td>Abdominal Pregnancy</td><td>

A pregnancy in the abdominal cavity.

- **Ultrasound criteria**
  - Absence of an intrauterine gestational sac
  - Absence of both a dilated tube and complex adnexal mass
  - Gestational cavity surrounded by loops of bowel and separated from them by peritoneum
  - A wide mobility of the sac

MRI can help confirm diagnosis in cases of suspicion for abdominal pregnancy and can help identify placental implantation site e.g. over major blood vessels or bowel.

- **Bloods**
  - A single serum βhCG at diagnosis

Management of an Abdominal pregnancy:

Surgical:

- Laparoscopic treatment is safe and effective when the pregnancy is diagnosed early and the implantation site doesn't involve an area of high vascularity.
- Advanced abdominal pregnancy should be managed with a laparotomy and the placenta should be left in situ if its implantation site involves major vessels or vital structures and spontaneous resorption should occur. This is associated with significant morbidity but less mortality rates than removing the placenta.

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<tr><td></td><td>Medical:
An alternative method is systemic methotrexate with ultrasound-guided fetocide – very few cases have been successfully managed in this manner
Methotrexate can be used as an adjunct to surgery</td></tr>
<tr><td>Heterotopic Pregnancy</td><td>An intrauterine pregnancy AND an ectopic pregnancy

Incidence is 1:3900

Consider a heterotopic pregnancy in all people presenting after assisted reproductive technologies e.g. IUP and persisting pelvic pain, or following miscarriage with a persistently raised serum βhCG
Ultrasound criteria
An intrauterine and extrauterine pregnancy is seen
Bloods
Serum βhCG is of limited value in diagnosing heterotopic pregnancy
A higher than expected value may raise suspicion
<h2>Management of a Heterotopic pregnancy:</h2>The intrauterine pregnancy should always be considered and not interrupted if this is the person’s wishes

Expectant:
Expectant management is an option in ultrasound findings of a nonviable heterotopic pregnancy
Medical:
Methotrexate should only be considered if the intrauterine pregnancy is nonviable or the person wishes to terminate the pregnancy.
Local injection of potassium chloride or hyperosmolar glucose with aspiration of the sac contents is an option, if clinically stable. This minimises the risk to the IUP. USS follow up is necessary.
Surgical:
Laparoscopy is the method of choice if the patient is clinically unstable – see “tubal pregnancy management”.</td></tr>
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Ministry of Health. 2019. *New Zealand Obstetric Ultrasound Guidelines*. Wellington: Ministry of Health.

Faculty of Sexual & Reproductive Healthcare. FSRH Clinical Guideline: Contraception After Pregnancy. 2017

The Royal Australian and New Zealand College of Obstetrics and Gynaecology. Guidelines for the use of Rh (D) Immunoglobulin (Anti-D) in obstetrics. 2019.

Related Documents:

- MATY148 Early Pregnancy Management Guideline

Keywords for searching:

1. Ectopic pregnancy
2. MATY041

Informed Consent:

The right of a consumer to make an informed choice and give informed consent, including the right to refuse medical treatment, is enshrined in law and in the Code of Health and Disability Consumers' Rights in New Zealand. This means that a person can choose to decline treatment, referral to another practitioner, or transfer of clinical responsibility. If this occurs follow the process map on page 18 of the Referral Guidelines (Ministry of Health, 2012).

Tangata Whenua Statement:

The Women's Health Service recognises the rights and responsibilities of Māori as tangata whenua and Treaty Partners. This allows and acknowledges the importance of cultural diversity in all aspects of our care and practice in Aotearoa New Zealand.

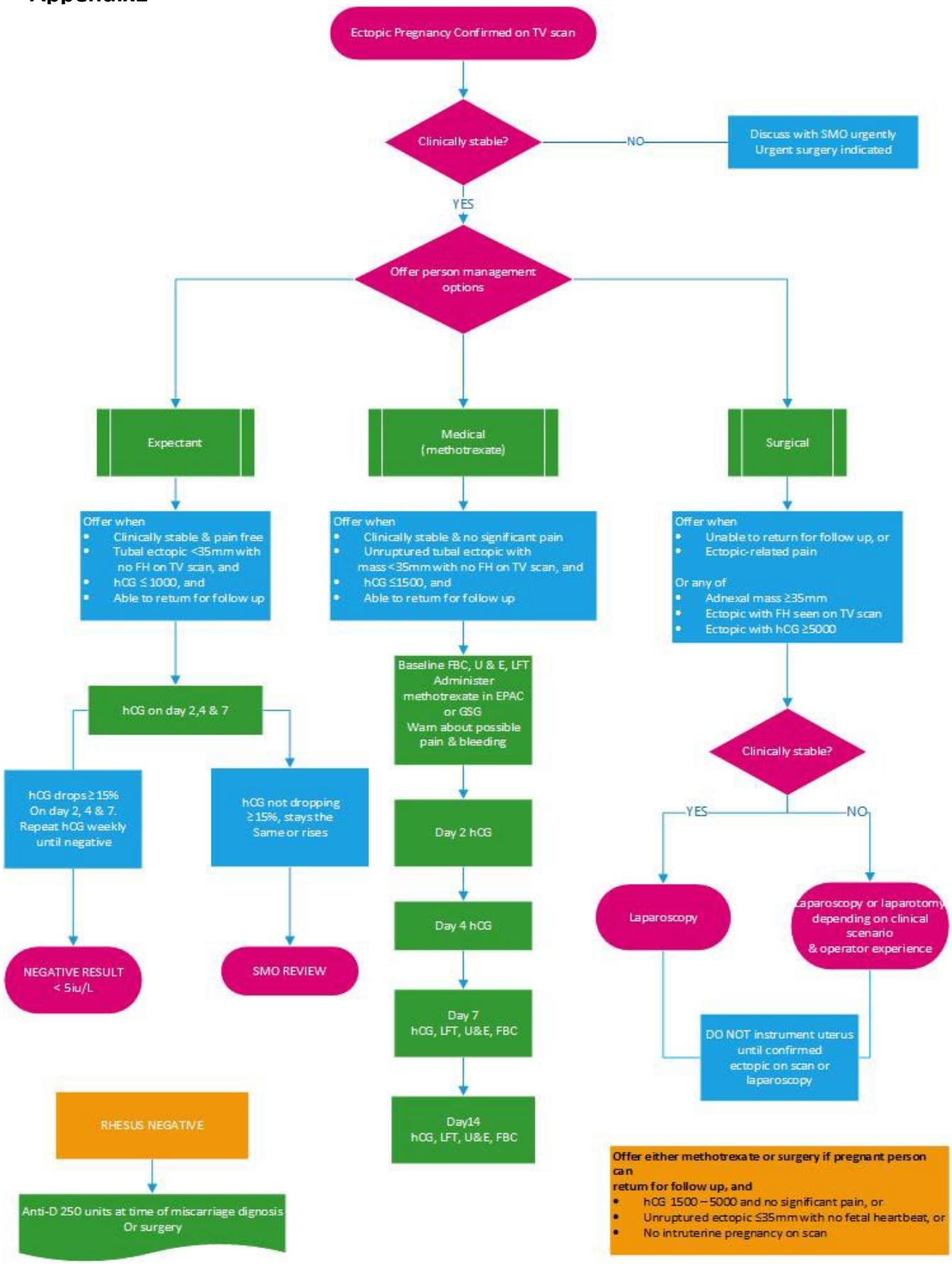
As stated in Te Pae Amorangi (Hutt Valley DHB Māori Health Strategy) 2018-2027, Hutt DHB as a Crown agency is committed to our role in maintaining active relationships with iwi, under Te Tiriti o Waitangi. This strategy recognises the established principles of Partnership, Participation and Protection and

recognises steps towards the reviewed interpretation of Te Tiriti principles to date (from the Wai 2575 claim into health). These are tino rangatiratanga, equity, active protection, partnership and options.

Attention in particular is drawn to:

- **Article one – Kāwanatanga**: actively engaging and working alongside with local iwi through the Hutt Valley Māori Health Unit
- **Article two – Tino Rangatiratanga**: Self-autonomy, self-determination; the responsibility to enable Māori to exercise their authority over their own health, determinants and definition of health
- **Article three – Ōritetanga**: equal health outcomes of peoples; ensuring that policy, guidelines or programmes do not further perpetuate any inequity
- **Article four (the 'oral clause') – Wairuatanga**: spirituality; thriving as Māori and the importance of health providers understanding health in te ao Māori (the Māori world), acknowledging the interconnectedness and inter-relationship of all living and non-living things.

Appendix1


Ectopic Pregnancy Confirmed on TV scan
Clinically stable?
NO
Discuss with SMO urgently
Urgent surgery indicated
YES
Offer person management options
Expectant
Medical (methotrexate)
Surgical
Offer when
Clinically stable & pain free
Tubal ectopic <35mm with no FH on TV scan, and
hCG ≤ 1000, and
Able to return for follow up
Offer when
Clinically stable & no significant pain
Unruptured tubal ectopic with mass <35mm with no FH on TV scan, and
hCG ≤1500, and
Able to return for follow up
Offer when
Unable to return for follow up, or
Ectopic-related pain
Or any of
Adnexal mass ≥35mm
Ectopic with FH seen on TV scan
Ectopic with hCG ≥5000
hCG on day 2,4 & 7
Baseline FBC, U & E, LFT
Administer methotrexate in EPAC or GSG
Warn about possible pain & bleeding
Clinically stable?
YES
NO
hCG drops ≥ 15% On day 2, 4 & 7. Repeat hCG weekly until negative
hCG not dropping ≥15%, stays the Same or rises
Day 2 hCG
Day 4 hCG
Day 7 hCG, LFT, U&E, FBC
Day14 hCG, LFT, U&E, FBC
Laparoscopy
Laparoscopy or laparotomy depending on clinical scenario & operator experience
NEGATIVE RESULT < 5iu/L
SMO REVIEW
DO NOT instrument uterus until confirmed ectopic on scan or laparoscopy
RHESUS NEGATIVE
Anti-D 250 units at time of miscarriage dignosis Or surgery
Offer either methotrexate or surgery if pregnant person can
return for follow up, and
hCG 1500 – 5000 and no significant pain, or
Unruptured ectopic ≤35mm with no fetal heartbeat, or
No intruterine pregnancy on scan

Appendix 2 – Methotrexate dosing

Procedure for Administration of IM Methotrexate in Ectopic Pregnancy Management

Purpose

To provide clear procedural guidelines for the administration of IM Methotrexate in ectopic pregnancy management. Methotrexate is a cytotoxic therapy and effects the growth and development of fetal cells. Precautions must be taken to reduce the risk associated with the handling and disposal of cytotoxic drugs for the benefit of staff and patients.

Scope

All midwifery, nursing and medical staff involved in administering methotrexate.

Procedure

Once written medical directive, including; the date, Patient's name and date of birth, drug, dose, route of administration, frequency of administration, and legible signature of the medical practitioner are available:-

- The drug chart is to be taken to Pharmacy for dispensing. Pharmacy will be able to dispense this immediately
- Methotrexate comes in vials. You will need to work out the amount to be given.

  (What you want / What you have) X (**Quantity it comes in/1)**
- As per the Ectopic Pregnancy Management Guideline all patients should have baseline βhCG, U&Es, LFTs, FBC prior to administration – check this has been done.

Dosage calculation is in the Ectopic Pregnancy Management Guideline

The aim is to avoid all spillage, excess exposure to Methotrexate for both the administrator and patient receiving injection.

Equipment

- Grey Latex Free Gloves
- Syringe
- Blunt Fill Needle
- 28 g needle
- Purple sharps disposal bin
- Gauze squares
- Sterile Water
- Plaster

Method

- Gloves should be worn during the procedure.
- Draw up correct amount of Methotrexate **(DO NOT PUSH AIR INTO VIAL** - this is to avoid methotrexate being sprayed out from vial)

- Do not allow Methotrexate to be released from needle when expelling air from Syringe, a filter connector placed over needle is a safety precaution to prevent spray and can be used
- When giving, **use Z track technique, deep IM Injection**
- **Wipe injection area clean with water when finished**

Disposal of Equipment

Careful disposal of needle, syringe, vial and gloves is necessary due to the cytotoxic capacity of this medication.
Use the purple sharps disposal bin. When it is full call orderlies for collection and disposal.

Documentation

Alongside usual documentation of administration the site of the injection should be recorded in the patient notes

Spillage

1. If methotrexate comes in contact with the skin, or following a needle stick incident, the area should be washed copiously with water for at least 10 minutes.
2. If methotrexate enters the eyes, they should be irrigated thoroughly with water for at least 10 minutes and medical advice sought.
3. Always double glove when dealing with spillages.
4. Wipe up any spillage with absorbent wipes provided in spillage pack, place in yellow bag and dispose of directly into cytotoxic sharps bin (Purple lid)
   (Guidelines are provided within spillage pack).

References

HVDHB Medicines Management Policy

Manufacturers Guidelines. www.medsafe.govt.nz