Gynaecology: Investigation and Management of Pregnancy of Unknown Location and Tubal Ectopic Pregnancy

University Hospitals of Leicester NHS
NHS Trust

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Contents

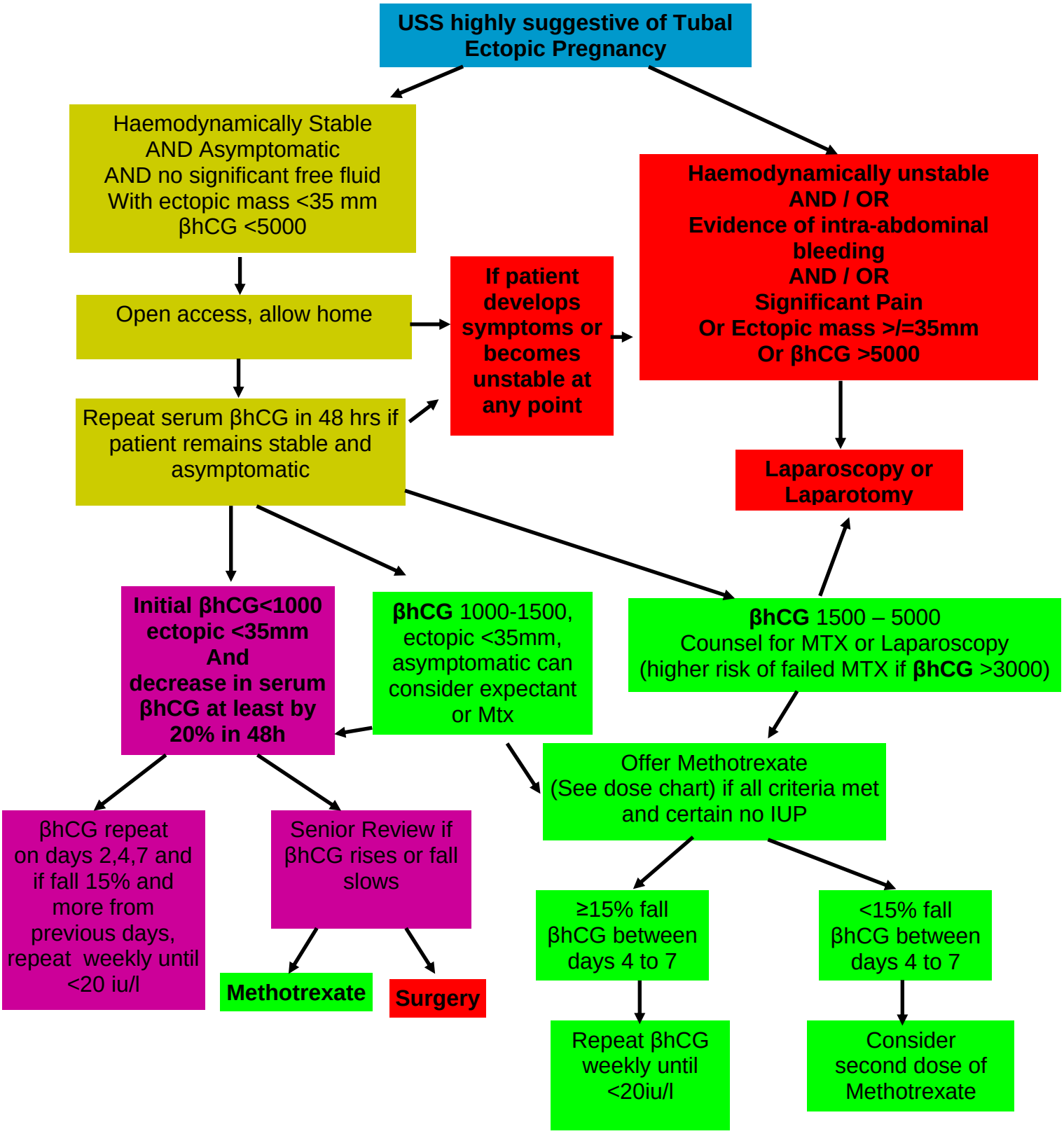
1. Introduction and who the guideline applies to:

This guideline is intended for the use of all members of staff within the Accident and Emergency, Gynaecology and Obstetrics department.
It does not include diagnosis and management of non-tubal ectopic pregnancies - advice can be found in RCOG Guideline 21: Diagnosis and Management of Ectopic Pregnancy

Related UHL Documents:

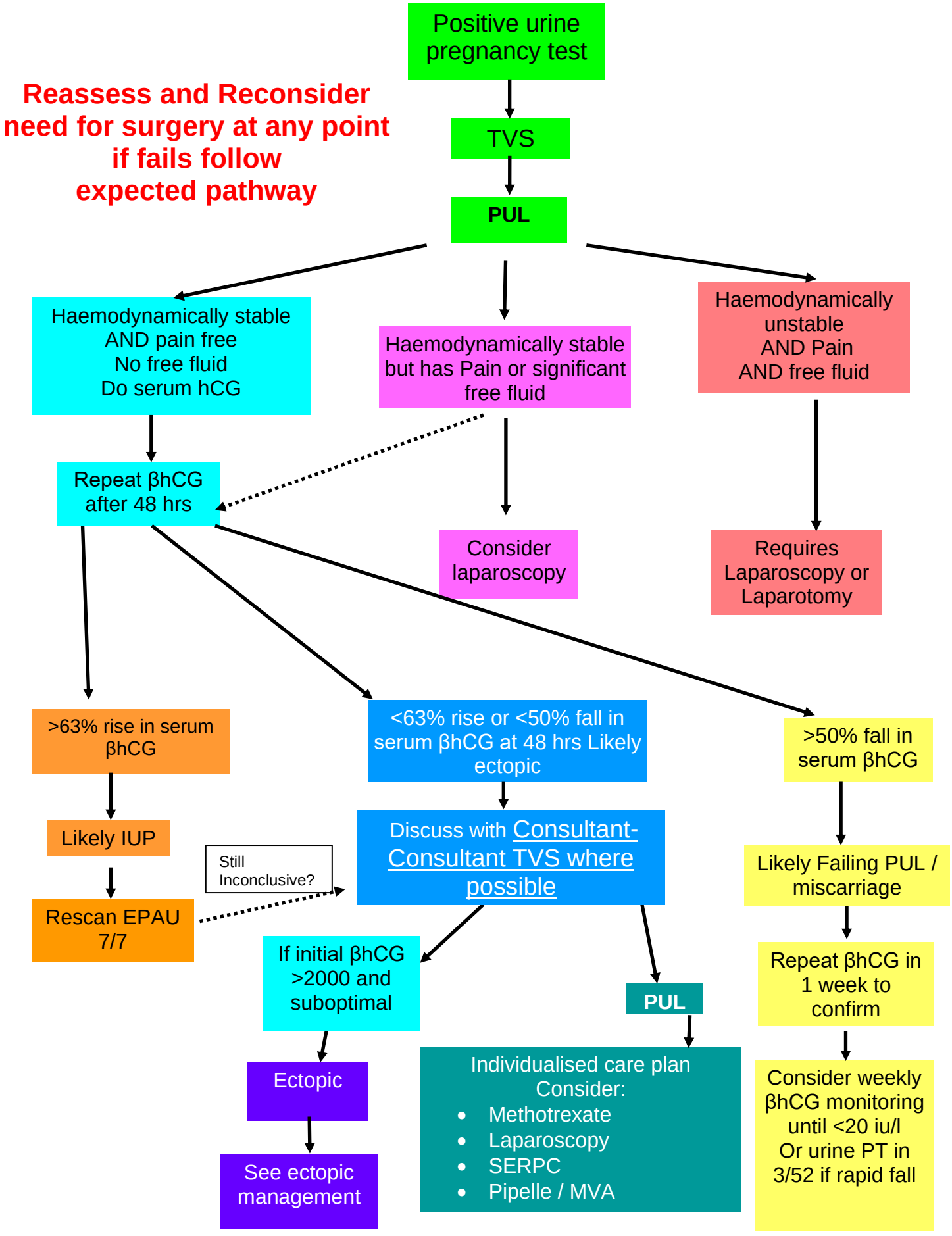
Miscarriage UHL Gynaecology Guideline.pdf
Imaging Reporting - Gynaecology UHL Imaging Guideline.pdf

Management of tubal ectopic pregnancy flow chart



Reconsider need for surgery during Expectant or Medical Management if fails to follow expected pathway

Management of Pregnancy of Unknown Location flow chart



2. Introduction and Background:

Ectopic pregnancy affects 1 in 80 pregnancies. In the Early Pregnancy Assessment Unit (EPAU) population the incidence is 3%[1.]

Locations of ectopic pregnancies:

- 95% tubal
- 2% interstitial
- 0.1% cervical
- 0.01% ovarian
- Rare but increasingly common: caesarean section scar (CSP) or abdominal[1]

Risk factors may be present in up to 2/3 of women with an ectopic pregnancy. They include a history of:

✓ Previous pelvic inflammatory disease	✓ Assisted reproductive technology
✓ Tubal surgery	✓ Intrauterine contraceptive device
✓ Previous ectopic pregnancy	✓ Copper IUCD
✓ Infertility	✓ Smoking
✓ Previous ectopic pregnancies	✓ Maternal age > 40 years

The diagnostic performance based on the combined use of trans-vaginal sonography (TVS) and serum βhCG measurement reaches sensitivities and specificity range 95% - 100%[1].

In assessing women with suspected ectopic pregnancy note that the signs and symptoms may resemble other conditions e.g. urinary tract infection, gastrointestinal conditions.

3. Management of pregnancy of unknown location

All asymptomatic women presenting to EPAU/GAU with positive pregnancy test and no evidence of intrauterine or extrauterine pregnancy classed as a pregnancy of unknown location (PUL) with no free fluid in pelvis on USS should have serum βhCG and repeat at 48 hrs.

It is mandatory that an ultrasound scan and a serum βhCG is provided within 24 hrs of a patient attending as a suspected case of ectopic pregnancy to ED, GAU or EPAU.

Serum βhCG assay:

If the patient is asymptomatic, βhCG is to be repeated in 48 hours or at a time as close as possible (but no earlier). Further βhCG measurements should only be taken after senior review.

If the βhCG is falling rapidly (>50%) it is suggestive of a resolving intra or extra-uterine pregnancy. Conservative management is advised so long the patient remains asymptomatic.

The rate of fall of βhCG tends to be slower in ectopic pregnancy than with complete miscarriages.

Women with increase in serum βhCG concentration greater than 63% after 48hrs are likely to be developing an intrauterine pregnancy. In such cases a date for transvaginal scan 7-14 days later may be considered, however once the βhCG levels exceed 1500iu/l an earlier scan is indicated.[2]

A serum βhCG level that is sub optimally increasing, decreasing or has plateau levels may either show an ectopic pregnancy at subsequent scan. Women with changes in βhCG levels between less than 50% decline and rise less than 63% are at high risk and require senior involvement. (See appendix for algorithm).

The βhCG levels need to be considered along with the patient's signs, symptoms and risk factors.

If the patient is in significant discomfort she should be admitted to the ward for a period of observation.

If she is/remains haemodynamically stable with no significant discomfort she may be allowed home to return for follow up. Direct contact number for the gynaecology ward should be given and the patient should be advised to call / attend at any time (open access to ward) if condition deteriorates. She should be made fully aware of the symptoms and signs to watch for and this should be documented in the notes.

4. Management of significant pelvic/abdominal pain, bleeding or who are haemodynamically unstable,

Women presenting with significant pelvic/abdominal pain, bleeding or who are haemodynamically unstable, need to be assessed by ST3 or above/Gynae Nurse Practitioner, involving on call consultant in the management of the patient

The method of management should be based on clinical symptoms. It is important that symptoms are not overlooked in making the choice of management.

USS can confirm the presence of a haemoperitoneum if there is diagnostic uncertainty but this shouldn't delay resuscitation and preparation for surgical management.
There is no role for medical management in women who present with shock.

Women with Pain and/or bleeding in early pregnancy must be investigated to exclude ectopic pregnancy

Initial assessment:

1. Clinical history noting any risk factors for ectopic pregnancy
2. Examination with relevant signs and symptoms
3. Ultrasound. TVS – Always be cautious interpreting results if there has been no prior scan documenting an intrauterine pregnancy. TAS – Consider in women with an enlarged uterus, pelvic pathology or where women find TVS unacceptable but the limitations of TAS must be explained and documented.

When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs ***of tubal ectopic*** *pregnancy taking into account other intrauterine and adnexal features on the scan, the woman's clinical presentation and serum hCG levels before making a diagnosis. : (NICE 2019)*

tubal ectopic confirmed	• an adnexal mass, moving separate to the ovary, comprising a gestational sac containing a yolk sac **or** • an adnexal mass, moving separately to the ovary, comprising a gestational sac and fetal pole (+/- fetal heartbeat).
high probability of a tubal ectopic	• an adnexal mass, moving separately to the ovary, with an empty gestational sac (sometimes described as a 'tubal ring' or 'bagel sign') **or** • a complex, inhomogeneous adnexal mass, moving separate to the ovary.
possible ectopic pregnancy	• an empty uterus **or** • a collection of fluid within the uterine cavity (sometimes described as a pseudo-sac).

When carrying out a transabdominal or transvaginal ultrasound scan during early pregnancy, scan the uterus and adnexae to see if there is a heterotopic pregnancy.

NOTE: All ultrasound scans should be performed or directly supervised and reviewed by appropriately qualified healthcare professionals with training in, and experience of, diagnosing ectopic pregnancies.

Pregnancy of unknown location is defined as there being no evidence of an intrauterine or extra uterine pregnancy on trans-vaginal ultrasound scan (TVS) in women with a positive pregnancy test.[4] Approximately 50% of PUL are ectopic pregnancy.

A diagnosis of ectopic pregnancy is more likely whenever intrauterine pregnancy is not detected by transvaginal ultrasound at serum βhCG concentration above 2000IU/L.

At UHL we recommend that if no pregnancy was identified on TV scan and the serum βhCG levels are greater than 2000 IU, a consultant scan should be requested within 24 hrs.

There is no evidence of benefit in the use of serum progesterone levels as an adjunct to diagnose ectopic pregnancy

Follow up for Pregnancy of Unknown Location with initial serum βhCG <2000IU

- Give appropriate information to patient. Explain the need for further follow up.
- Close surveillance with serum βhCG measurements after 48hrs.
- A >63% rise in serum βhCG is likely to be an early intrauterine pregnancy. TVS should be repeated in 7-10 days or when serum βhCG is greater than 2000IU/L. If the diagnosis remains uncertain she should be reviewed by the Consultant
- A >50% fall in serum βhCG is likely to be a miscarriage or failing ectopic. As long as the patient is well and asymptomatic she may be managed conservatively with weekly βhCG monitoring until <20 iu/l or urine PT in 3/52 if rapid fall.

- For a woman with a change in serum βhCG concentration between a 50% decline and 63% rise inclusive, refer her for clinical review in the early pregnancy assessment service within 24 hours.
- **Where diagnosis is uncertain after 3x βhCG levels, consultant review is advised.**
- An individualised care plan will be agreed between the consultant and the patient taking into account the patients risk factors, past history, symptoms and wishes.
- Methotrexate can be used for PUL after no less than 3x static βhCG levels. Alternative treatment options are preferred as 50% of PULs are failing IUPs.
- A laparoscopy +/- SERPC may be considered if no ectopic pregnancy identified.
- A pipelle biopsy or MVA may be considered after 3x static βhCG levels if diagnosis remains unclear. Sensitive disposal forms will be sent with the sample and the Histopathologist informed to expect the specimen for rapid analysis of the sample within 48h. POC in the sample will exclude an ectopic pregnancy and allow for a conservative or medical approach to follow up of the miscarriage, avoiding unnecessary use of Methotrexate.
- Repeat TVS when serum βhCG>2000IU/L or 7-10 days later whichever is sooner, to look for an IUP or an ectopic pregnancy.
- Provide emotional support.

5. βhCG levels

Women presenting with suspected miscarriage and empty uterus on USS must have serial βhCG levels to exclude the diagnosis of ectopic pregnancy unless products of conception have been seen or prior ultrasound showed an intrauterine pregnancy.

In women with PUL or ectopic pregnancy, irrespective of a fall in βhCG, greater importance should be placed on clinical symptoms and patient reviewed by senior decision maker.

The possibility of PUL / ectopic should be considered with suspected complete miscarriage on ultrasound (empty uterus or minimal mixed echoes)

- if there is no prior ultrasound to show IUP[5]/ no products have been passed/seen

OR

- suspected incomplete miscarriage on ultrasound AP diameter <20 mm mixed echoes

It is important that symptoms are not overlooked in the follow up plans for these women. Manage them as PUL with at least 2 serial serum βhCG levels – see PUL flowchart

6. Expectant management

Expectant management of tubal pregnancy may be considered in an asymptomatic patient with ultrasound evidence of an ectopic mass <35mm maximum diameter, no evidence of fetal heart pulsation and no evidence of free fluid in pelvis, initial serum βhCG =/<1000iu/l and are able to return for follow up (NICE NG126).

Selection Criteria for Expectant Management

1. absence of clinical symptoms
2. no sign of rupture or intra-peritoneal bleeding
3. absence of haemoperitoneum
4. a tubal mass of less than 35mm with no visible fetal heartbeat on transvaginal ultrasound scan.
5. initial βhCG level of =/<1000iu/l
6. falling by at least 20% at 48h and
7. are able to return for follow-up.
8. **explicit informed patient consent** and open access

Women must be adequately counselled about the success rates of expectant management and this must be clearly documented in the notes. Expectant management often involves frequent follow- up. Typically, this can be up to 8 weeks.
Advise women that, based on limited evidence, there seems to be 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, but that they might need to be admitted urgently if their condition deteriorates
- Health status, depression or anxiety scores.

Advise women that the time taken for ectopic pregnancies to resolve and future fertility outcomes are likely to be the same with either expectant or medical management.

The risk of rupture in a woman with an ectopic exists until the βhCG level has fallen to <20 IU/L.

Follow-up:

- Monitor serum βhCG levels at day 2, day 4 and day 7 to ensure βhCG levels continue to fall by 20% or more and the woman remains asymptomatic
- After day 7, repeat weekly until βhCG is less than 20iu/l.
- Rescan as required (re-presents with pain/unwell)
- if hCG levels do not fall by 20%, stay the same or rise from the previous value, review the woman's clinical condition and seek senior advice to help decide further management.

7. Medical management

Medical management of confirmed tubal ectopic may be considered where the woman is asymptomatic, with ultrasound evidence of an ectopic mass <35mm maximum diameter, no evidence of fetal heart pulsation, no evidence of free fluid in pelvis, no evidence of concurrent intrauterine pregnancy and if hCG is <1500IU/L – Methotrexate is first line management where acceptable to patient;
hCG is 1500-5000 – patient should be counselled regarding the choice of surgical or medical management
(NB. Where βhCG is >3000iu, as second dose of methotrexate or surgery is more likely to be needed)

A single injection of Methotrexate is well tolerated and effective. Published studies have shown a success rate varying from 52% to 94% for single dose Methotrexate.

Systemic Methotrexate Treatment in Tubal Ectopic Pregnancy:

Methotrexate is a folic acid-antagonist (anti-metabolite) which prevents the growth of rapidly dividing cells by interfering with DNA synthesis. At UHL it is given according to a single-dose protocol, which involves a single intra-muscular dose as per dosing chart (see appendix) depending on body surface area calculated using Mostellar formula or for women with a body surface area under 1.3m^2 dose is individually prepared (50 mg/m^2). It will not usually be offered at first attendance and usually at least 2 βhCG levels will be required to exclude ongoing pregnancy and option of expectant management.

Please note these criteria apply to *tubal* ectopic pregnancies only.

Offer systemic methotrexate as a **first-line treatment** to women who are able to return for follow-up and who have all of the following:

- no significant pain
- an unruptured tubal ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat
- a serum βhCG level less than 1500 IU/litre
- no intrauterine pregnancy (as confirmed on an transvaginal ultrasound scan).

Offer surgery where treatment with methotrexate is not acceptable to the woman.

Offer the **choice of either Methotrexate or surgical management** to women with an ectopic pregnancy who have a serum βhCG level of at least 1500 IU/litre and less than 5000 IU/litre, who are able to return for follow-up and who meet all of the following criteria:

- no significant pain
- an unruptured tubal ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat
- no intrauterine pregnancy (as confirmed on an transvaginal ultrasound scan).

Advise women who choose methotrexate that their chance of needing further intervention is increased and they may need to be urgently admitted if their condition deteriorates. Surgery should be offered when Methotrexate is not acceptable to the patient.

The use of Methotrexate for tubal ectopics which do not meet the inclusion criteria should be a consultant based decision. The woman should be informed that Methotrexate is being used in contradiction of both national and local guidance and this should be clearly documented in the notes.
Use of Methotrexate for **non**-tubal ectopics is not covered here and may be used in accordance with RCOG Guidance[11]

Exclusion Criteria:

- If there is any evidence of intra-peritoneal haemorrhage i.e. haemoperitoneum on TVS.
- Any hepatic or renal dysfunction, thrombocytopenia (platelet count <100 x10^3, blood dyscrasias, (WCC < 2000 cell cm^3).
- Difficulty or unwillingness of patient for prolonged follow-up (average follow-up 35 days).
- Ectopic mass >35 mm in maximum diameter or βhCG >5000 IU/L
- The presence of cardiac activity in an ectopic pregnancy
- Women on concurrent corticosteroid therapy

Treatment Protocol:

1. Discuss options for management – expectant / surgical / medical.
2. Ensure eligibility and exclusion criteria are met.
3. The consultant on call must be involved in the decision on management with Methotrexate.
4. Counsel the patient and explain treatment protocol. Give information leaflet. Take written consent and complete the Methotrexate for Ectopic booklet – see appendices
5. Take height and weight and calculate body surface area in m^2 (**use Mosteller formula**, not normogram)
6. Prescribe Methotrexate as per dosing chart (see appendix) and inform the pharmacist. The order must be made to Pharmacy before 16:00hrs. After this time, the Methotrexate will be given the next morning.
7. Methotrexate dose is capped at 100mg. Higher doses of MTX increase risk of side effects without improving success rates in the obese patient as it is a water soluble drug.
8. Organise base line blood tests, FBC, blood group, LFTs, U&Es and serum βhCG
9. Check blood results, prescribe anti-D immunoglobulin if Rhesus-negative before administering.
10. Methotrexate is given intramuscularly in buttock or lateral thigh. The doctor on call must check the medication with the nurse in-charge or Pharmacist before administering it. The empty syringe and needle should be placed in a separate Sharp Safe, labelled “Cytotoxic waste for special incineration”.
11. Patient is given open access to GAU and the ward must be informed of this.
12. Arrange follow-up in EPAU/GAU - ensure bloods are taken as per chart (see Appendix)

Systemic Methotrexate for Tubal Ectopic- Single – Dose Regimen:

Day1: Serum βhCG, FBC, U&Es, LFTs, G&S

Check results before administering Intramuscular Methotrexate as per dosing chart

Day 4: Serum βhCG

Day 7: Serum βhCG, FBC, LFT

Day 14 FBC, βHCG

Day 21, 28, 35…. ß-HCG until it is less than 20 iu/l (if βhCG decrease >15%)

Consider 2nd dose of Methotrexate if βhCG decrease less than 15 % from day 4 to 7

Outcome

- 90% successful treatment with single dose regime.
- Recurrent ectopic pregnancy rate 10–20%.

Direct injection of Methotrexate into the ectopic can be considered in some cases of interstitial, cornual, cervical and caesarean scar pregnancies. This is mainly a technique used by infertility specialist and should only be performed and followed up by a consultant gynaecologist with necessary skill[11].

Information for Clinician:

- Up to 75% of patients may complain of pain on days 3–7
- βhCG levels may initially rise days 1–4. Mean time to resolution is 35 days.
- A second dose of Methotrexate may be given at 7 days (in the contralateral buttock/deltoid) if βhCG levels fail to fall by more than 15% between day four and day

seven. If the LFT's are abnormal after the first dose, further monitoring of the liver function is essential before administering a second dose of Methotrexate

- 14% of medically treated women will require more than one dose of Methotrexate. [6,7]
- Risk of tubal rupture is 7% and the risk remains while there is persistent βhCG.
- If βhCG levels plateau or rise the woman's condition should be reassessed and surgical intervention considered
- Folinic acid maybe useful if side effects (see below)
- Avoid vaginal examination. TVS may be undertaken during first treatment week or subsequently if clinically indicated.
- Ovarian cysts may be found in the post treatment phase, which undergo spontaneous resolution
- Complete checklist and written consent: Consent Stickers are available (see appendix)
- In the absence of a history of subfertility or tubal pathology, women should be advised that there is no difference in the rate of fertility, the risk of future tubal ectopic pregnancy or tubal patency rates between the different management methods.

Folinic Acid Rescue Treatment:

Folinic Acid (as Calcium Folinate) should be used in cases of suspected side effects of Methotrexate such as Mucositis or Myelosupression. Start Folinic Acid 15mg orally every 6 hours for 8 doses. Repeat FBC 48 hours later.

PATIENT COUNSELLING

The patient should be counselled with aid of information leaflet) for the medical treatment by a **Senior Trainee / Consultant.** Counselling should include the following points:

- Prolonged follow-up (1 month on average) is required with blood tests until serum βhCG level is below 20 iu/l.
- A further dose of Methotrexate may be necessary in 14% of cases.
- Three quarters of women experience abdominal pain following treatment, which is due to the drug acting on tubal pregnancy. Will need review by appropriate medical staff if pain increased or fails to respond to simple analgesics
- Advantages of medical treatment:
  - Avoidance of surgery associated risks
  - Early recovery
  - Avoidance of a scar on the abdomen
- Disadvantages of medical treatment:
  - Need for a significant period of follow-up until the pregnancy is completely resolved
  - Chance of surgical intervention during the follow-up (7 %)
  - Possible side effects of Methotrexate
  - Avoid pregnancy for minimum of 3 months

- Side effects of Methotrexate:
  - Stomatitis, dysphagia, mucositis of alimentary tract, bone marrow depression, these are self-limiting and can be reversed by folinic acid. In rare cases hepatic and pulmonary dysfunction which may be permanent
- Patients should avoid sexual intercourse and remain within the area until the pregnancy is completely resolved.
- A patient information leaflet should be given to the patient. An opportunity should be given for the patient and partner to think about the medical treatment and have their questions answered.
- Home support, communication and transport facilities should be assessed and the patients should be advised to avoid travelling alone for the first two weeks.
- In future pregnancy, request ultrasound scan at 6 weeks via GP to confirm pregnancy location.

TROUBLE SHOOTING

- If the patient requests stronger analgesia Co-codamol or Dihydrocodine should be used. DO NOT USE NSAIDs
- If the pain is severe admit patient to ward for observation and scan – give analgesia and consider the need for laparoscopy
- After Methotrexate, a laparoscopy should be considered when there is:
  - Haemodynamic instability
  - Ultrasound scan shows significant collection of free fluid in the POD.
  - Pain remains severe and persistent despite analgesia

8. Surgical management

Surgical management of tubal ectopic is the treatment of choice for;
- Haemodynamically unstable/symptomatic woman
- Live tubal ectopic
- Tubal ectopic mass >35mm
- Evidence of significant free fluid in the pelvis
- Heterotopic ectopic
- βhcg >5000 iu/l
- Failed medical treatment
- Patient choice

Management of ruptured ectopic with collapse:

- ABC of resuscitation
- Get help; call senior SPR on call and anaesthetist
- Site two IV lines (at least 16g), commence IV fluids (crystalloid), give facial oxygen and insert indwelling catheter (urine pregnancy test if not done previously)
- Send blood for FBC, Clotting screen and cross-match at least 4 units of blood.
- Inform theatre Co-ordinator and category of urgency.

- Inform Gynae consultant on call

- Continue fluid resuscitation and ensure intensive monitoring of haemodynamic state, whilst awaiting transfer to theatre

- Do not wait for BP and pulse to normalise prior to transfer to theatre

- Consider a *FAST* scan where available to confirm free fluid in the abdomen

- When surgical management is undertaken whenever possible laparoscopy remains an option for experienced operators with a large haemoperitoneum but consideration should be given to the condition of the woman, the opinion of the anaesthetic team and the complexity of the procedure required.[3]

- Laparotomy is a reasonable method in cases with haemorrhagic shock as it prevents further blood loss and can be quickly performed or where a surgeon has inadequate experience with operative laparoscopy.[3]

Anti – D immunoglobulin to be given to Rhesus negative women. Anti – D 250 IU should be given in anyone managed surgically but not in cases of medical management or PUL. Kleihauer is not required to determine feto-maternal haemorrhage[2]

Surgical management of stable ectopic:

Laparoscopic surgery is generally preferred over open due to:

Advantages:

- Shorter hospital stay (1 – 2 days)
- Significantly less blood loss
- Less adhesions formation
- Lower analgesic requirements
- Quicker post-operative recovery time
- Recurrent ectopic pregnancy rate lower (5%) than after laparotomy (16.6%)
- Subsequent intrauterine pregnancy (IUP) rate better (70%) than after laparotomy[2,3]

Disadvantages:

- Increased risk of bowel/vascular damage

Laparotomy is preferred when:

- In cases with haemorrhagic shock and patient is haemodynamically compromised, discussion with the anaesthetist is always helpful.
- Surgeon has inadequate experience of operative laparoscopy.

Discuss treatment with the patient and options of conserving or removing the tube.

Salpingectomy: In the presence of a healthy contra lateral tube and no risk factors for infertility salpingectomy is preferred [2,3,11]
Knuckle or partial salpingectomy is not recommended due to increased risk of further ectopic

Laparoscopic salpingotomy should be considered as the primary treatment when managing tubal pregnancy in the presence of risk factors for infertility (contra lateral tubal disease, previous ectopic, PID) and the desire for future fertility.
Discuss the possibilities of a chance finding of a damaged contra lateral tube and removal of it, and the issues of infertility/need for future IVF (inform patient NHS funding for IVF cannot be determined at that point); clearly document this in notes. All cases where it is obvious from previous history that fertility is likely to be compromised, must have direct involvement of the consultant. Inform women having salpingotomy, which up to 1 in 5 may require further treatment. This may include methotrexate and / or salpingectomy. **Suturing the salpingotomy lesion** provides no benefit.

Fimbrial evacuation (milking) of ectopic pregnancy from the tube should not be undertaken as it predisposes to persistent trophoblast, except if tubal abortion is in progress at surgery.

Follow-up regime after Salpingotomy/Tubal abortion:

- While trophoblast remains in the tube it has a capacity to rupture.
- βhCG should be done seven (7) days after surgery.
- Follow-up at weekly intervals until serum βhCG level is <20 iu/L. [3]
- If βhCG level is rising or plateauing, consider further treatment with Methotrexate or if evidence of intra-abdominal bleeding for repeat surgery and potential salpingectomy.

Outcome after conservative surgery in women with one tube: Recurrent ectopic pregnancy rate 20.5%, IUP rate 54%.

Consenting for Surgery
Women should be counselled about the benefits and risks of surgical management in simple language so they can understand. The risks should be outlined as per consent stickers.

Brief Note on non-tubal ectopics

This guideline addresses the management of tubal ectopics. Non-tubal ectopics should be discussed with the on-call consultants and an individualised care plan made and documented in the woman's notes. RCOG GTG No. 21 – Diagnosis and Management of Ectopic Pregnancy addresses the diagnosis and optimal management strategies for non-tubal ectopic pregnancy. USS guided injection of non-tubal pregnancies should only be carried out by Consultants who have received appropriate training. [11]

9. Follow up after ectopic pregnancy

Routine follow up after an ectopic pregnancy in outpatients' department is not usually required, however patients should be given advice upon discharge regarding future pregnancy and contraceptives. Urine pregnancy test performed in 3 weeks and be advised to contact GAU if positive. Women should be offered counselling with the counsellor for early pregnancy loss.

Advice on discharge after an ectopic pregnancy

- Repeat pregnancy test in three weeks – patient to contact GAU or EPAU if positive.

- Any woman with a previous ectopic that has been managed medically or surgically should be referred to EPAU via GP in all subsequent pregnancies (CCG protocol).
- Contraception
    - Copper IUCD and POP are best avoided (except for Desogestrel 75mcg) unless no other more suitable alternative for the patient
- Folic acid should be used when trying for a pregnancy.
- A patient information leaflet on ectopic pregnancy should be provided.
- Appointment with counsellor should be offered.

10. Education and Training:

New guideline will be disseminated to staff working on GAU and EPAU

11. Supporting References

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12. Key Words

Ectopic, tubal pregnancy, early pregnancy, Gynaecology

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) **Original authors:** N. Archer, O Barney Miss Olivia Barney (Consultant Gynaecologist)	**Executive Lead** Chief Medical Officer
Details of Changes made during review: • Format update throughout. • Tubal ectopic management; if initial βhCG <1000, monitoring levels changed from decrease of 15% in 48 hrs to 20% in 48 hrs. • Background information updated. • Pain and/or bleeding in early pregnancy TVS USS and initial assessment section updated. • Falling βhCG levels by at least 20& added as criteria for expectant management. • Added counselling & documentation in cases of expectant management	

Appendix 1: Dosing chart for Methotrexate

1. Calculate patient's body surface area using *Mosteller* formula

    a. BSA (m^2) = square root of (height (cm) x weight (kg)/3600)

    Or

    b. Use a BSA app (search Body surface area in app store) – but ensure you select *Mosteller formula*

2. Prescribe Methotrexate as per chart below

Surface area	50mg per m^2	Dose to prescribe	Administered as
1.3 – 1.49m^2	65 - 74.5mg	70mg	70mg syringe
1.5 – 1.69m^2	75 – 84.5mg	80mg	10mg + 70mg syringes
1.7 – 1.89m^2	85 – 94.5mg	90mg	90mg syringe
1.9m^2 and greater	95 – 100mg	100mg	10mg + 90mg syringes

- If BSA is <1.3m^2, calculate dose as 50mg/m^2 and the laboratory will prepare an individualised dose in working office hours during the week only and not at all at weekends). This may result in a short delay in administering the Methotrexate.

- The dose is capped at 100mg. As Methotrexate is water soluble, obese patient do not require a higher dose – this would increase the risk of side effects and toxicity without improving outcomes.

- In the rare instances where an injection is required into the gestational sac (which is usually a 25mg or 50mg dose regardless of body surface area), these doses will be prescribed by the consultant planning the surgery and the laboratory will prepare an individualised dose in working office hours during the week only and not at all at weekends).