Scanning in Early Pregnancy Indications – Full Clinical Guideline

Reference No.: UHDB/Gynae/11:21/S1

Contents

1. Introduction

Ultrasound in the early stages of pregnancy (before 11 weeks of gestation) is important and necessary for many clinical reasons in the management of early pregnancy. Clinical reasons can include; caring for women after assisted conception including IVF, those where miscarriage is feared and those in whom ectopic pregnancy is suspected.

During the first 11 weeks of pregnancy the fetus is most vulnerable because it is extremely small, the cells are dividing quickly and the placenta is not attached so there is limited blood flow. Ultrasound for reasons other than those stated above are therefore not recommended.

2. Purpose & Outcomes

This document provides guidance for the indications for ultrasound scanning in early pregnancy. The purpose of this policy is to:

- minimise the number of inconclusive ultrasound scans performed in early pregnancy and reduce the number of repeat scans and visits to hospital.
- facilitate the diagnosis and treatment of women with symptoms and signs of early pregnancy complications.

- provide a fast and reliable diagnosis of conditions such as ectopic pregnancy where a delay in the diagnosis may be harmful.
- provide reassurance to women with high risk of early pregnancy loss that their pregnancies are developing normally.

3. Definitions Used

BHCG	-	Beta Human Chorionic Gonadotrophin. A hormone produced by the developing pregnancy. Is detectable in the serum as early as 7 days after conception and in the urine by the time the first period would have been missed. A urinary pregnancy test has a sensitivity of about 97% for detecting a pregnancy (including ectopic) and a serum value of less than 2 IU/L will exclude all but 1% of pregnancies.
TVS (TV Ultrasound)	-	Transvaginal ultrasound. This is the imaging method of choice in the diagnosis of early pregnancy problems because it allows a better view of the region adjacent to the uterus. It should be possible to see an intrauterine pregnancy by 6 weeks' gestation on TVS.
GAU	-	Gynaecology Assessment Unit at the Royal Derby Hospital, located adjacent to gynae outpatients department.
EPAU	-	Early Pregnancy Assessment Unit at Queen Hospital, Burton, located on ward 30.
(1st) Trimester	-	The word trimester means "three months." The first trimester is defined as from conception through till end of week 13. The second trimester is from week 14 through week 28; and the third trimester is from week 28 through labour and delivery, which averages at week 40.

1. Process for Scanning in Early Pregnancy

4.1 Requesting a Scan

Prior to the scan, all patients should have their pregnancy confirmed by a positive urinary pregnancy test. A request form/electronic request should include LMP, previous pregnancy problems etc, and reason for request.

4.2 Scanning before 8 weeks may be indicated in the following cases

- Women with one or more risk factors for ectopic pregnancy:
  - previous ectopic
  - previous tubal surgery
  - conceived with intrauterine contraceptive device or on progesterone only pill
  - history of pelvic inflammatory disease
  - assisted reproduction
  - women with abdominal pain and/or vaginal bleeding with clinical suspicion of
  - ectopic pregnancy
  - women with a history of recurrent miscarriages who are likely to need
  - medication otherwise after 8 weeks is appropriate
  - women with a previous history of molar pregnancy who have bleeding

Patients referred for scanning in early pregnancy who are found to have an empty uterus will be referred to the Gynaecology Assessment Unit (GAU) or Early Pregnancy Assessment Unit (EPAU) for clinical review and further investigation as appropriate. When diagnosing complete miscarriage on an ultrasound scan, in the absence of a previous scan confirming an intrauterine pregnancy, always be aware of the possibility of a pregnancy of unknown location. Advise these women to return for follow-up (for example, hCG levels, ultrasound scans) until a definitive diagnosis is obtained.

4.3 Scanning before 8 weeks' gestation is not indicated in the following patients

- Women with light painless bleeding (with a closed os) without above risk factors for ectopic pregnancy.
- Women who have had a vaginal examination, in whom the internal cervical os is open, since the miscarriage is probably inevitable.
- Women with initial scan for viability suggesting an early gestation sac (i.e. earlier than dates) the rescan for viability should not be booked before 8 weeks by scan or at least 7 days after the initial scan.
- Women with hyperemesis gravidarum

4.4 Rescans

A repeat scan sooner than 1 week should be negotiable if the initial BHCG was above 1500iu and the initial scan was inconclusive, especially with rising subsequent repeat BHCG level in 48 hours; as this can provide valuable information to help further management.

Rescans for reassurance

- Patients who have repeated bleeding in early pregnancy should not have repeated scan (unless the clinical picture changes significantly).
- An initial viability scan at 8 weeks and then 1st Trimester Screening Scan should ensure there is an ongoing pregnancy at the end of the first trimester.
- Subsequently the fetal heart may be auscultated after.

Repeat Scans may be indicated in following cases

- Persistent bleeding in women with previous scan showing large haematoma with live IUP
- Post evacuation (medical/surgical / spontaneous) with persistent bleeding. It is probably not helpful to scan less than one week after miscarriage. Continued bleeding following miscarriage/TOP will normally resolve without intervention.
- Failed expectant management (if bleeding/pain did not start or persisting or increasing pain in 7-14 days following diagnosis of miscarriage) a repeat scan may be considered before considering further treatment options.

4.5 Ovarian cysts in early pregnancy unit scans

a) Ovarian cyst plus pain

- Refer to Doctor

b) Simple ovarian cyst less than 5cm diameter in asymptomatic woman

- No action

c) Simple cyst over 5cm diameter

- Reassess at 10-12 weeks gestation at dating or nuchal scan by experienced gynae/obstetrics ultrasonographer according to local guidelines.
- Discuss with Consultant on call if cyst >10cm
- Sonographer will ensure added to booking scan and should add a comment in the report stating that the cyst will be re-examined at the booking scan.

d) Features suggestive of haemorrhagic or corpus luteum cyst

- Reassess at 10-12 weeks gestation at dating or nuchal scan by experienced gynae ultrasonographer according to local protocol.
- Discuss with consultant on call if cyst >10cm

If cyst still present, arrange for woman to be seen in the ANC on same day as scan by consultant

If woman no longer pregnant (e.g. miscarriage, TOP) the second scan should be done 16 weeks after the first in main ultrasound department. If the cyst persists and shows no signs of resolving, fax report to referring clinician or GP for a possible gynae appointment.

e) Complex ovarian cyst

- Ultrasound report shown to consultant on call for appropriate action.

OBSTETRICS: Ovarian Cysts Seen on Routine First Trimester Scan

a) Simple ovarian cyst less than 5cm diameter in asymptomatic woman

No action

b) Ovarian cyst greater than or equal to 3cm plus localised pelvic pain on palpation by trans-vaginal probe

- Refer to Doctor (for consultant led women, refer to named consultant, for midwife led care women refer to doctor in antenatal services.

c) Simple cyst over 5cm diameter in asymptomatic woman

- A transvaginal ultrasound examination should be performed at the time of the first trimester ultrasound scan.
- The woman will then be seen in ANC for her routine booking appointment at which time the ANC consultant will decide on the timing of a rescan and clearly state it on the ultrasound request form. The rescan may be performed (by a gynae-obstetric sonographer) at the same time as the routine anomaly scan or be performed separately in the main department if clinically needed.

d) Complex cyst with any IOTA m-rule features

M (malignancy) features: irregular solid tumour (M1), ascites (M2), at least four papillary structures (M3), irregular multilocular solid tumour with a largest diameter of at least 100 mm (M4), and very high colour content on colour Doppler examination (M5).

- A transvaginal ultrasound examination should be performed at the time of the first trimester ultrasound scan.
- Ultrasound report shown to consultant on call or in ANC for appropriate action.
- Requires MDT discussion

4.6 Scans from 11 weeks

- If a scan is required try to delay until the 1st Trimester Screening Scan (if this is within 7 days) unless there is a high chance of fetal demise or miscarriage

4.7 Dating Scans

- Routine dating scans are performed in the obstetric scan department in this hospital, not in FEPS (fertility and early pregnancy scans) department (see dating scan guideline)

- Women wishing termination of pregnancy should be referred to Pregnancy Advisory Clinic where a scan will be performed.

4.8 Retained Products

- **Following termination of pregnancy – see medical management of T.O.P. protocol)**

Rescan may be requested if urinary pregnancy test still positive after 3 weeks and if static /rising HCG's or patient has persistent vaginal bleeding.

2. Monitoring Compliance and Effectiveness

As per the audit forward programme

3. References

Guidance on Ultrasound Procedures in Early Pregnancy. Royal College of Radiologists RCOG Scientific Opinion Paper; The use of ultrasound from conception to 10 weeks gestation. March 2015

American College of Obstetricians and Gynaecologists Practice Bulletin 83. Management of Adnexal Masses. Obstet Gynecol 2007; 110: 201-14.

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