The Shrewsbury and Telford Hospital NHS Trust

Management of ovarian cysts and adnexal masses in the first and second trimester

Version 5

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Division	Women and Children's
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Comments:	References to SaTH Guidelines in the text pertain to the latest version of the Guideline on the intranet. Printed copies may not be the most up to date version.

Version	Implementation Date	History	Ratified By	Full Review Date
1	Feb 2005		Gynae Clinical Governance	Feb 2007
2	24th June 2011	Updated		June 2014
3	20th January 2016	Full review		Jan 2019
4	16th October 2019	Full review – previously named Management of Ovarian Cyst	Clinical Governance	16th Oct 2024
5	2nd December 2024	Reviewed with no changes	Clinical Governance	Dec 2027

1.0 Introduction

Adnexal masses in pregnancy are relatively common, with a estimated incidence of up to 8.8%.[1] However the incidence of ovarian malignancy is very low, with rates of 1 in 1500 – 32'000 pregnancies. The majority of benign masses can be managed expectantly during pregnancy and it is therefore important to differentiate those benign masses from potentially malignant masses to allow appropriate management.

2.0 Aims

2.1 The aim of this guideline is to provide a framework and guidance to nurses and medical staff to ensure that the optimum care is given.

3.0 Objectives

3.1 To provide appropriate care and support, both physically and psychologically.
3.2 To ensure correct management is given.

4.0 Definitions

4.1 EPAS – Early Pregnancy Assessment Pregnancy Service

5.0 Diagnosis and Management

5.1 General Management:

- EPAS scan
- Discuss scan report in details
- Assess whether the patient is symptomatic or asymptomatic (using clinical judgement)
- Temperature, pulse and BP
- Give contact numbers
- Ongoing management will depend on the appearance of the cyst, and the presence or absence of symptoms.
- Symptomatic cysts should be referred to the gynaecology consultant on call for clinical review.

5.2 Process

- Pregnant women who attend for any ultrasound assessment will include visualising the adnexae for ovarian mass or cyst (although research suggests more difficult to visualise adnexae at later gestation).
- If adnexal mass seen, transvaginal ultrasound will be undertaken due to increased sensitivity.
- Measure cyst in 3 dimensions.
- Measure thickness of cyst wall (if more than 3mm suggestive of malignancy).
- Check the lining of the cyst to see if it is nodular with papillary projections.
- Look at septate dividing locules, numerous thick irregular septate are more suggestive of malignancy.
- Look for solid components within the locules.
- Check for ascites.
- Check the other ovary.
- Report ultrasound findings using MEDWAY system.

5.3 Simple Cysts

5.3.1 A simple cyst would be defined as a regular, unilocular cyst without the presence of nodules or papillae. In early pregnancy this would often be a follicular cyst, or a corpus luteal cyst characterised by a “ring of fire” on colour Doppler.

- Document the size of the cyst in 3 dimensions
- Inform GP in EPAS full summary letter
- Review at 12/40 dating scan
- Avoid operating on simple cysts (in particular corpus luteal cysts) in the first and early second trimester as this could be associated with subsequent miscarriage.

5.3.2 If cyst is over 5cm and persists at 12 weeks:

- Discuss expectant treatment as first line
- Arrange Rescan at approximately 16 weeks.
- Follicular cysts typically resolve by 16 weeks gestation.
- If persist at 16 weeks:
    - Reduced in size <5cm – no follow up
    - Persist 5-7cm – Recheck at anomaly scan
    - Persists and is >7cm refer to fetal medicine scan clinic at 24 weeks for ongoing antenatal management (not covered by this guideline).
- If new clinical concern then consider referral to Consultant EPAS scan clinic at 14-16 weeks.
- If the patient becomes acutely unwell with significant pain then this may signify possible torsion and the patient should be referred to the consultant gynaecologist on call.
- Arrange for ultrasound scan in main radiology department to check for resolution.

An Increased Risk of miscarriage must be explained to patient and documented in notes for when surgical management is undertaken particularly in the first trimester. Should surgical management be required this is best performed in the second trimester.

5.3.3 Symptomatic or enlarging Simple Cysts

- Refer to Fetal Medicine Clinic
- Consideration will be given to
    - Transabdominal drainage
    - Transvaginal drainage
    - Surgery

5.4 Non-Simple Cysts and Masses

A complex adnexal mass would encompass any lesion other than a simple anechoic follicular or corpus luteal cyst. A summary of the different types of cysts and masses is given in appendix 1 for information. All complex masses prior to 16 weeks should be referred to the EPAS complex patient clinic for review and initial management, or direct to fetal medicine depending on availability and clinical concern. Complex masses beyond 16 weeks gestation should be referred directly to Fetal Medicine.

5.4.1 Initial Assessment

- The use of RMI is not validated in pregnancy
- Initial characterisation of the mass will be made by repeat greyscale and colour Doppler ultrasonography. The following factors would increase the suspicion of malignancy (IOTA – appendix 2)[2]:
    - Irregular multilocular solid mass with diameter >10cm
    - Solid components within the cysts
    - Papillary projection >6mm
    - Significant Doppler colour flow within projections
    - Increasing size of mass (increase by 20% would be significant)
    - Septations
    - Free fluid extending beyond pouch of Douglas

5.4.2 Apparently Benign Masses

- Following repeat scan where a diagnosis of benign mass is made (Fibroid, endometrioma, dermoid):
    - Discuss options for management based on symptoms
    - Aim for conservative management where possible
    - Check size of mass at anomaly scan
    - Refer to Fetal Medicine clinic for review at 24 weeks.

5.4.3 Suspicious or indeterminate masses

- Where a suspicious or indeterminate mass is confirmed (any one of “M rules” as per IOTA rules – appendix 2):
    - Send CA125 (using a higher cut-off of 112 U/ml)[3] and LDH
    - Consider second consultant opinion
    - Consider MRI and/or rescan by appropriate consultant radiologist
    - Consider Referral to gynae-oncology MDT

6.0 Training

6.1 All staff receive continuous in house training and receive regular updates from The Association of Early Pregnancy Units

6.2 All staff employed by SATH will be informed how to access guidelines on the intranet

6.3 Information regarding new and updated guidelines is circulated by email/memo to medical and nursing staff

6.4 A paper copy is placed in the Gynaecology Guideline Folder on Ward 14 and file in EPAS with a notice posted to alert staff to be aware of new and updated guidelines

6.5 Regular training updates for sonography staff on identification and assessment of adnexal masses.

References

1) Alalade AO, Maraj H. Management of adnexal masses in pregnancy. The Obstetrician & Gynaecologist. 2017;19:317-25

2) Timmerman D, Ameye L, Fischerova D, et al. Simple ultrasound rules to distinguish between benign and malignant adnexal masses before surgery: prospective validation by IOTA group. BMJ. 2010;14:341

3) Aslam N, Ong C, Woelfer B, Nicolaides K, Jurkovic D. Serum CA125 at 11–14 weeks of gestation in women with morphologically normal ovaries. BJOG 2000;107:689–90

Appendix 1

Adnexal mass	Ultrasound features
Corpus luteal cyst	Simple to a complex cystic lesion with internal debris and thick walls Typically surrounded by a circumferential rim of colour Doppler flow with a low resistance Doppler pattern referred to as the 'ring of fire'[4]
Follicular cyst	Usually 2.5–6 cm in diameter Anechoic cyst with a thin wall without septations or vegetation
Haemorrhagic cyst	Various sonographic appearances
Hyperstimulated ovaries	Bilateral enlarged ovaries with vascular echogenic stroma surrounded by multiple cysts resulting in 'spoke wheeled appearance' Can be associated with ascites
Luteoma of pregnancy	Complex heterogeneous hypo-echogenic mass Can be highly vascular
Dermoid	Usually bilateral Characteristic appearance of hair and sebum 'white ball' sign
Malignant germ cell tumours	Solid mass Can contain anechoic areas because of internal haemorrhage or necrosis
Borderline cysts	Usually unilocular cysts with multiple vascular mural wall nodules or papillary projections
Endometrioma	Diffuse 'ground glass' pattern caused by presence of old blood within the cyst
Fibroids	Echoic, well circumscribed solid masses Cystic change may be seen if red degeneration occurs
Hydrosalpinx	Thin-walled tubular structure containing anechoic fluid Beads-on-a-string sign, which are remnants of the endosalpingeal folds Can usually be readily distinguished from pelvic veins and bowel by visualizing the colour flow within the blood vessels and peristalsis within the bowel
Tubo-ovarian abscess	Thick-walled, ill-defined multiloculated cystic/solid lesion
Ovarian torsion	Enlarged and oedematous ovary with follicles peripherally arranged Twisted vascular pedicle described as the 'whirlpool sign' Presence of flow within the ovary does not exclude the diagnosis (complete loss of Doppler signals within the ovary is a late sign)[2]

Appendix 2

Box 1. Ultrasound criteria for classification of adnexal masses

Benign (B) rules	Malignancy (M) rules
- Unilocular cyst - Presence of solid components where the largest solid component <7 mm - Presence of acoustic shadowing - Smooth multilocular tumour with largest diameter <100 mm - No blood flow	- Irregular solid tumour - Ascites - At least four papillary structures - Irregular multilocular solid tumour with diameter ≥100 mm - Very strong blood flow - Increase in size by 20% on subsequent scan[24]