

Ultrasound of Adnexal Masses – How Accurate Are Report Descriptions and Image interpretation?

Yoyel Kang, Sharon Watty, Sarah Natas (Guy's and St. Thomas' NHS Foundation Trust)

Background:

Adnexal masses are common during gynaecological ultrasound and may cause symptoms, or represent an incidental finding. Accurate assessment of benign findings or potential malignancy is vital for optimal patient outcomes. Adnexal morphology may be varied which makes sonographic assessment challenging. For this reason, standardised descriptors and classification systems have been produced to assist diagnostic accuracy.

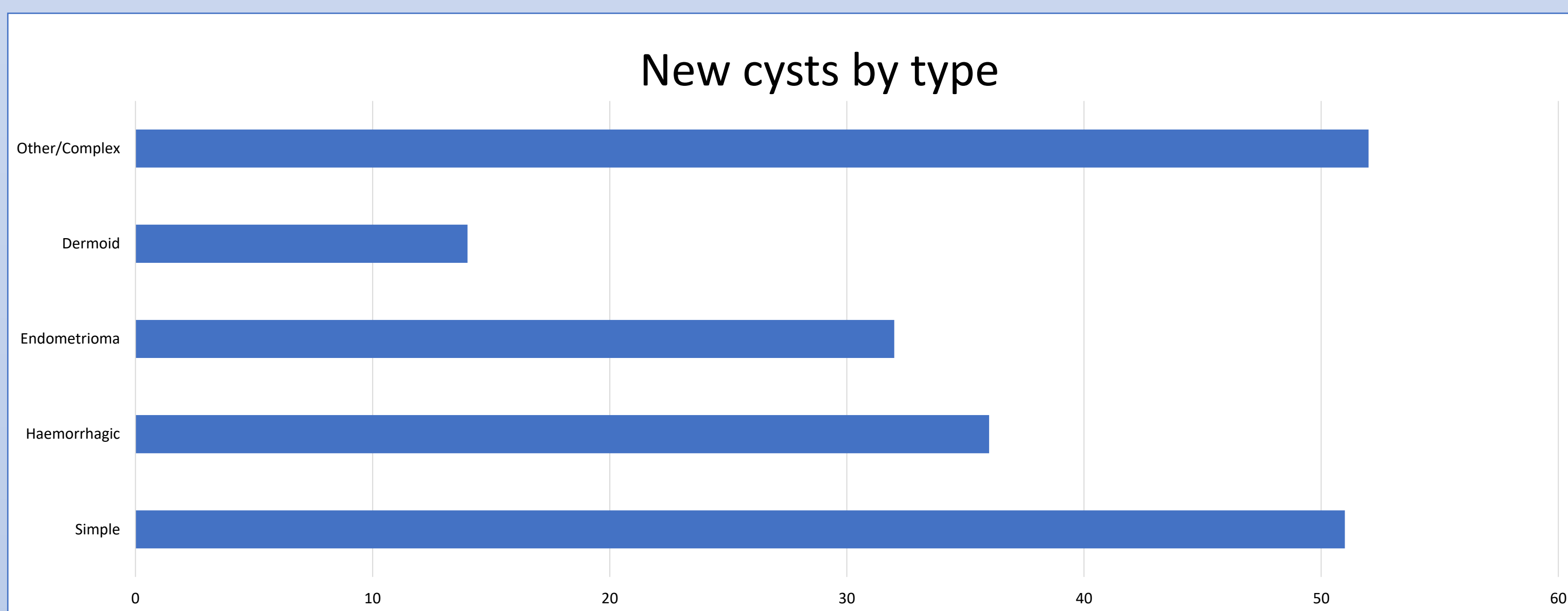
This audit aimed to assess the accuracy of interpretation of adnexal masses by comparing imaging reports with local departmental protocols, based upon standard descriptors, IOTA classification and appropriateness of referral to Gynaecology services (based upon Green Top RCOG guidelines). Local target for compliance is 85%.

Method:

PACS reports were reviewed for patients undergoing gynaecological ultrasound between March-May 2022. Reports were reviewed for standard descriptors of benign pathologies (simple and haemorrhagic cysts, endometriomas and dermoid cysts) or more complex abnormalities, using standard IOTA descriptors/classification and note was made of outcomes (no further imaging, follow up ultrasound or Gynaecological referral).

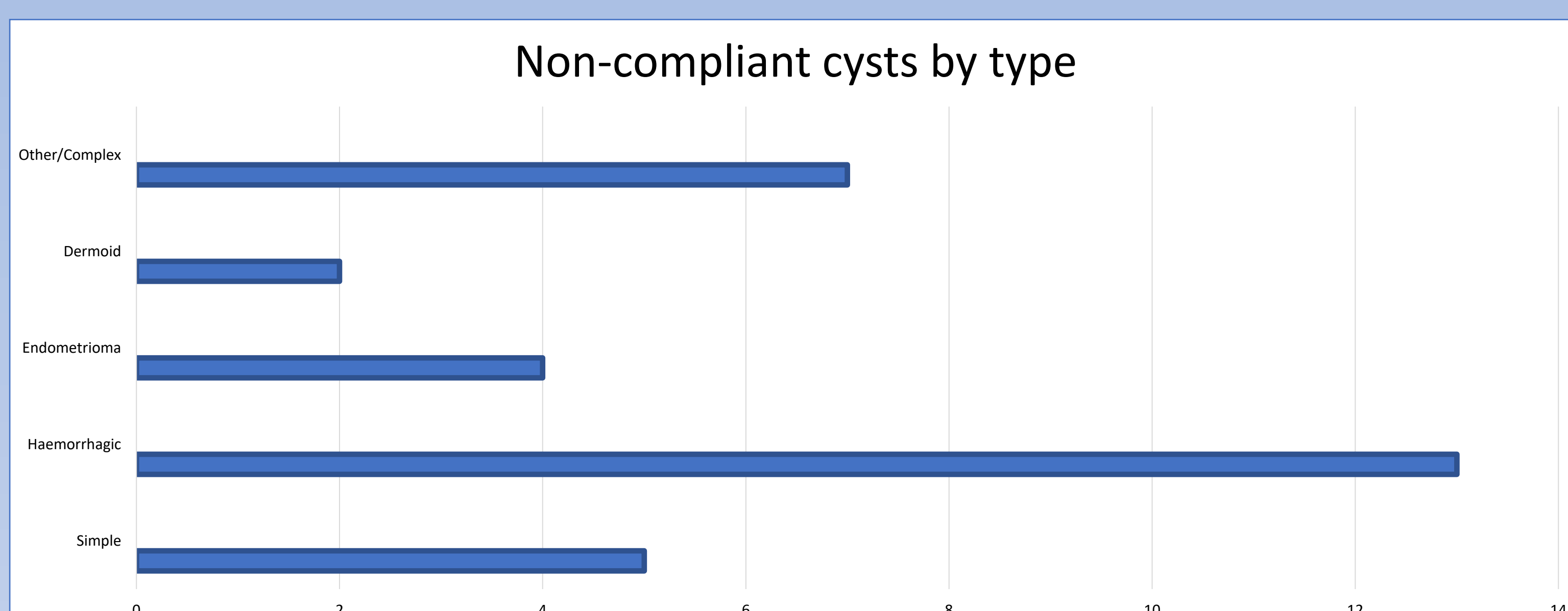
Results:

- Total number of ultrasound reports reviewed = 2797, data missing in 10 patients
- 182 cysts diagnosed in 160 patients
- Median age: 38 years (Range 19 – 86 years)
- Benign cysts with standard descriptors: 133 (72%), other/complex cysts: 52 (28%)
- Adequacy of reports with standard descriptors: 94%

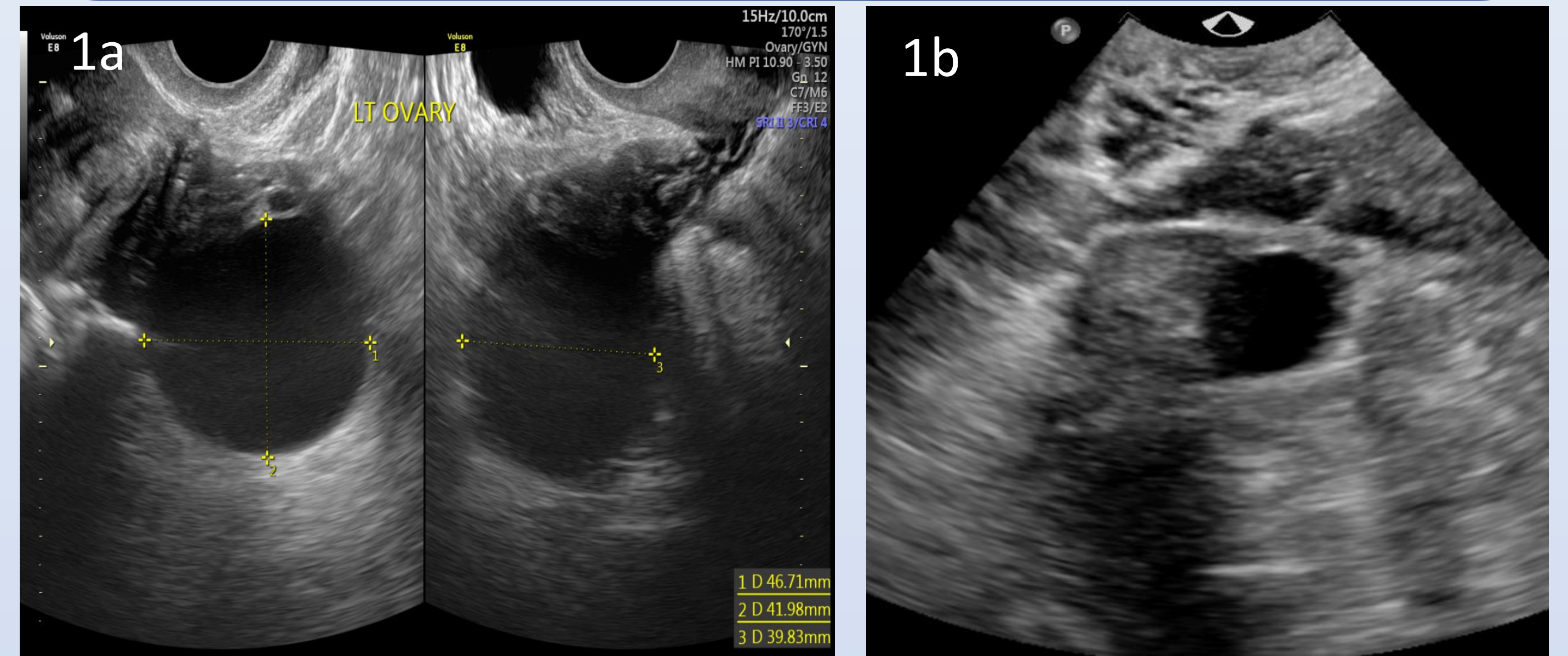


Pathway outcome	No Patients
No follow up	80
Follow up ultrasound	74
Gynae referral	24
Rapid access clinic	47
MRI	17

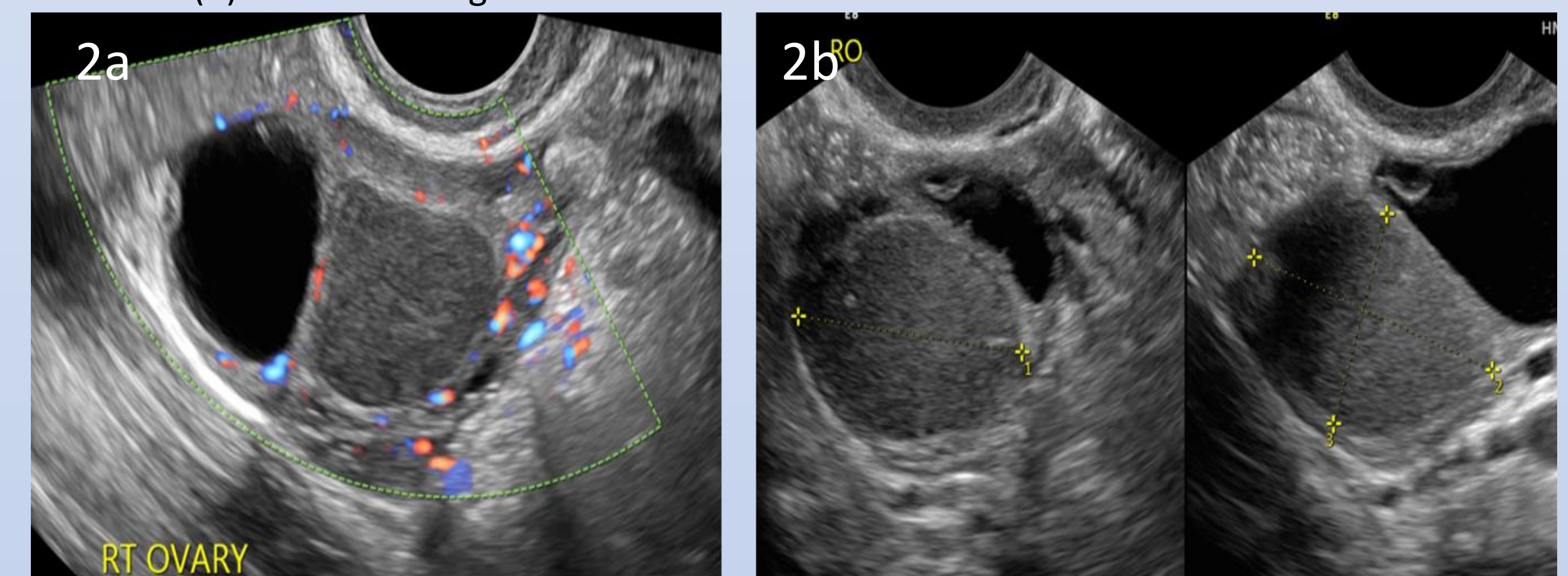
Cyst evaluation	Number
Resolved with further imaging	39
Further imaging - benign	45
Further imaging - borderline	6
Further imaging - malignant	2
Not followed up	90
Total	182



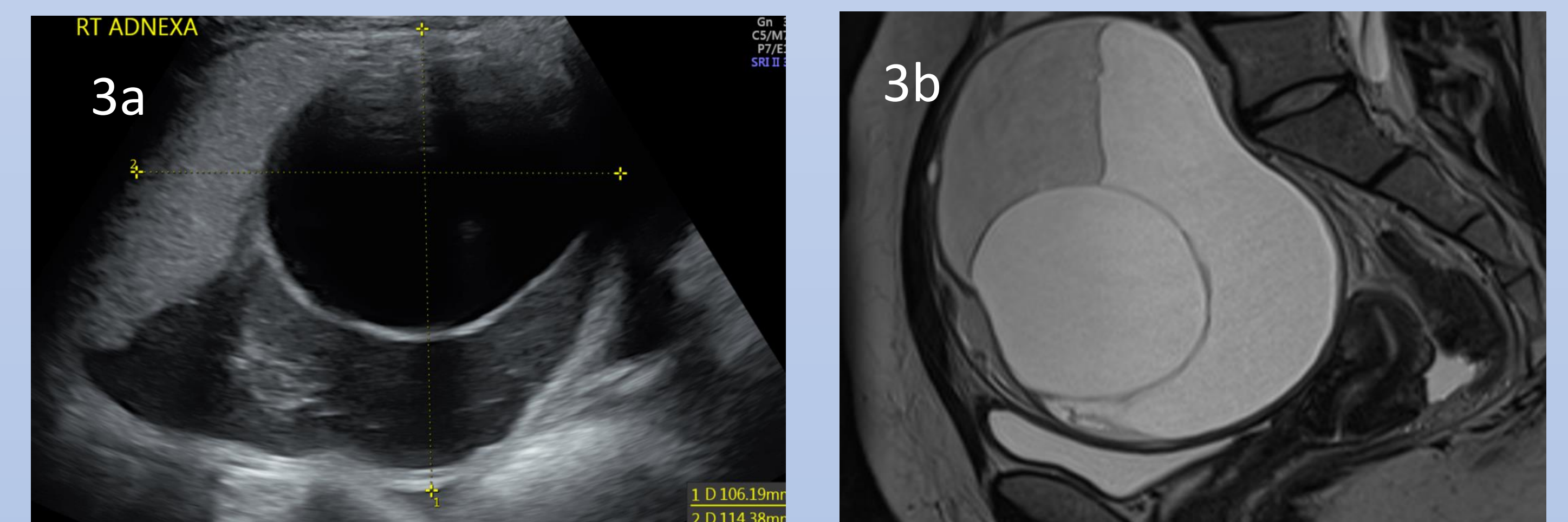
- Gynaecology referrals: 45 (25%)
- Subsequent ultrasound demonstrating resolution/benign features 35 (19%)
- MRI performed in 18 cysts in total (10%), including the 8 (4%) characterised as borderline/malignant on ultrasound
- Unnecessary referrals mostly for haemorrhagic cysts/endometriomas 16 (9%)
- 2 unnecessary referrals were made for simple cysts
- 4 simple cysts and 5 complex cysts should have been referred (5%)
- Guidance on follow up imaging in dermoid cysts not followed in 1
- Total referrals meeting guidance = 84%



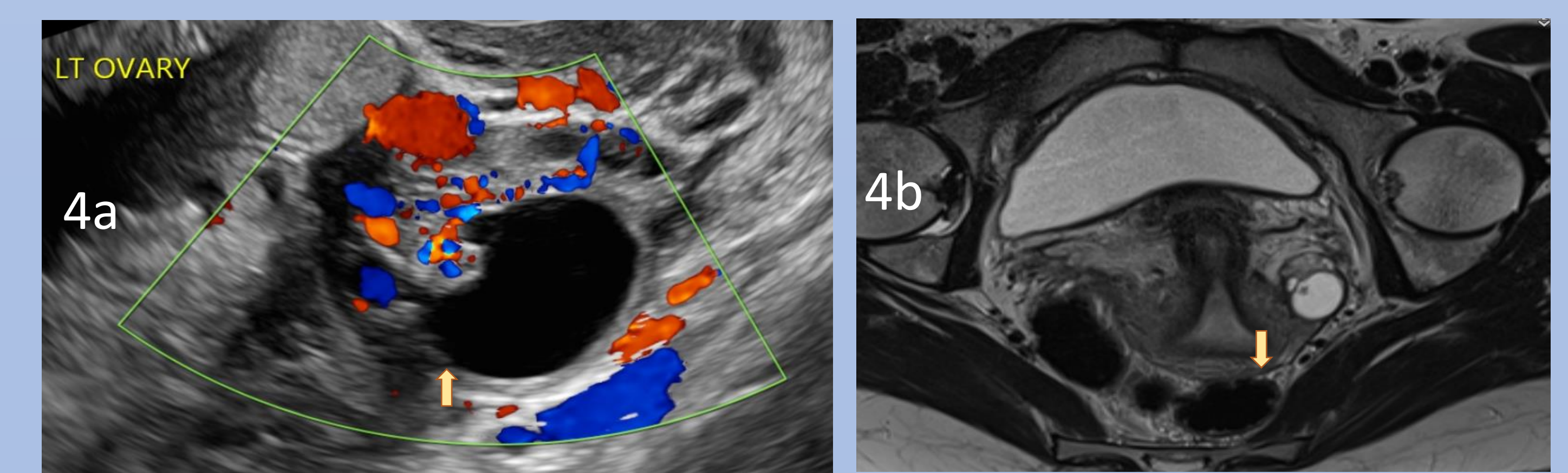
1. TVUS displaying a simple cyst within the left ovary of a perimenopausal (vs postmenopausal) woman measuring <5cm recalled for a follow up scan (a). Follow up after 10 weeks (b) demonstrating resolution.



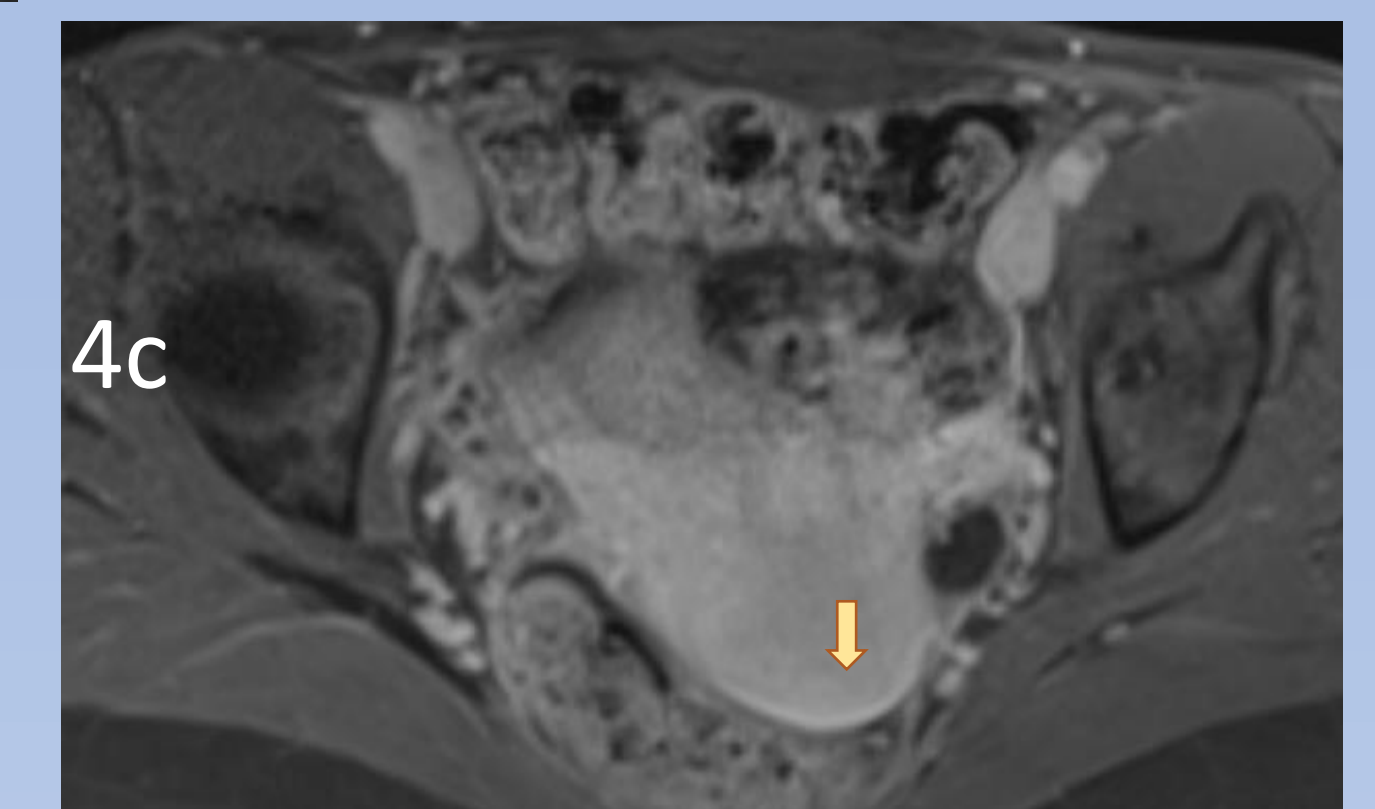
2. 38 year old patient with menorrhagia. Ultrasound demonstrated a right ovarian cyst described as either a haemorrhagic or endometriotic cyst (a), mildly increased in size after recall for follow up in 10 weeks (b). Classic appearance of low level homogenous echoes. Appreciation would prevent unnecessary repeat scan and prompt close evaluation for additional subtle sites of endometriosis.



3 (a) TVUS conclusion worded as a 'complex cystic structure'. MRI (b) demonstrated dermoid cyst with no malignant features. More accurate description of the internal components would better characterise the fat components and help differentiate between a benign and malignant lesion, and risk stratify the patient. The wording 'complex' can be unclear.



4 (a) TVUS demonstrates cyst within the left ovary with a vascular mural nodule (yellow arrow). Axial T2W (b) and axial fat saturated post contrast T2W images demonstrating the cyst with a small enhancing wall nodule (yellow arrows). Eventual histology revealed benign struma ovarii, a difficult tumour to accurately characterise on all imaging modalities.



Conclusion:

Overall compliance was very good for report adequacy indicating good understanding of IOTA descriptors allowing accurate diagnosis, highlighted by the relatively low number of MRI scans performed, allowing efficient use of imaging resources. Adequacy of compliance with referral guidelines was marginally below target, suggesting the need for education to reinforce local knowledge.