

EXPOSITION OF AN ENDOMETRIAL POLYP ON ULTRASOUND

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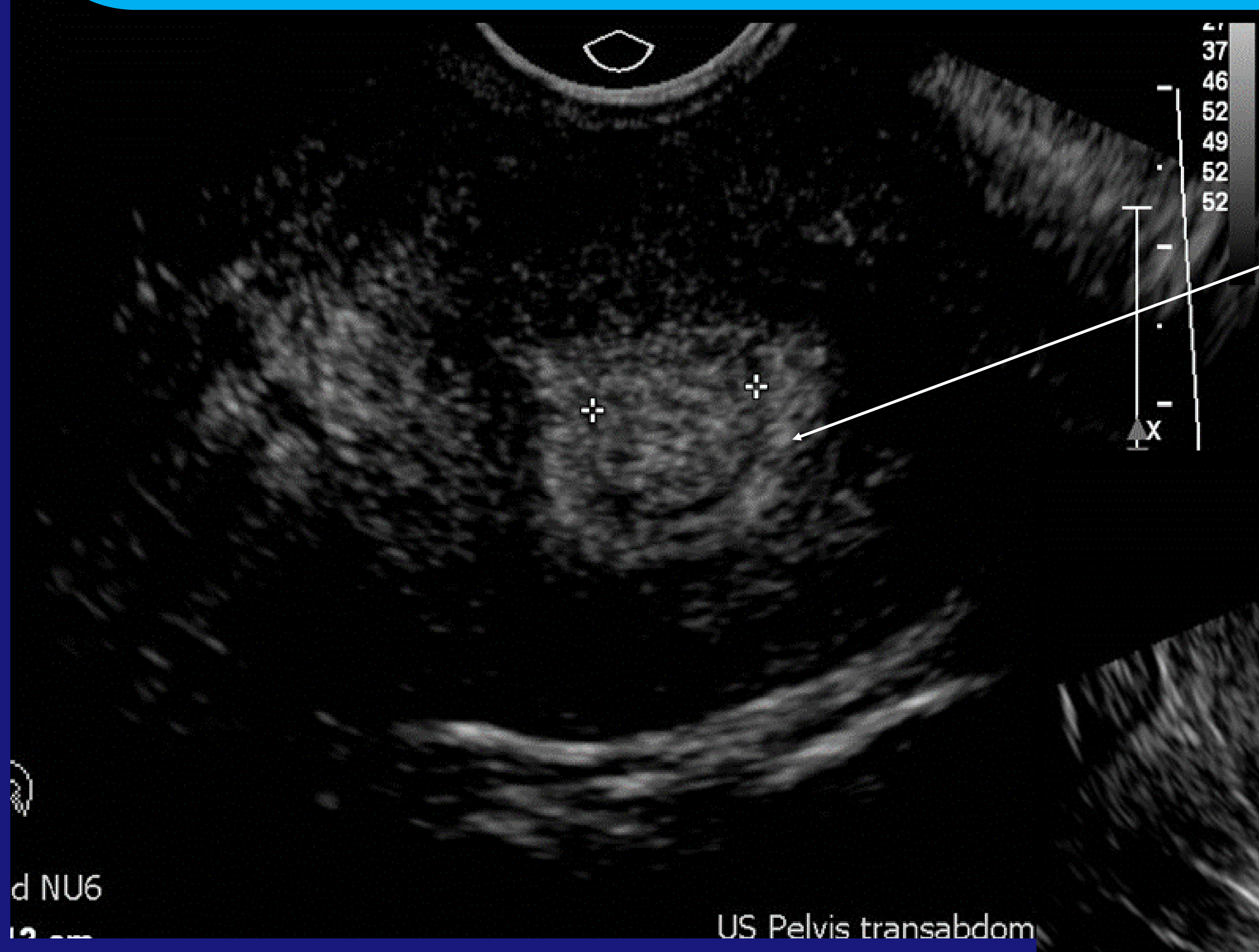
INTRODUCTION:

An Endometrial Polyp (EP) is a mass situated within the endometrium, affecting pre-menopausal and post-menopausal women, specifically those treated with tamoxifen¹. It is estimated that 25% of women have an EP², which are predominantly benign overgrowths of endometrial cells, however a malignant risk exists (1 - 3%)^{3,4}. Malignancy risk, alongside symptoms such as menorrhagia and infertility, categorises EP's as a pathology that requires an early diagnosis to aid best treatment. Ultrasound (US) is the first-choice modality for assessment of suspected EP's⁵, with large studies proving it highly sensitive⁶.

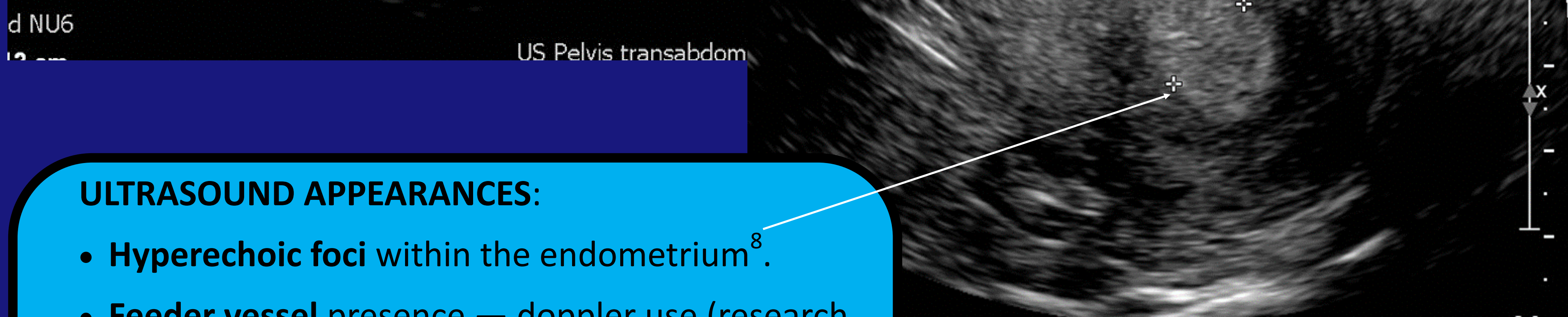
CASE:

A **premenopausal woman**, suffering from **menorrhagia** and **inter-menstrual bleeding (IMB)** presented to her general practitioner and was referred for a pelvic US in line with best practice^{5,7}. The patient was in good health, with no further complaints and a normal body mass index (BMI). No previous cancer or EP history. **No previous Tamoxifen use**. Both transabdominal (TAUS) and transvaginal (TVUS) scans were performed, in keeping with NICE guidelines⁵. The GP had established **normal Ca-125 levels**.

B-mode US revealed a **12 x 11mm EP within the distal segment of the endometrial cavity**. This presented as a **focal hyperechoic region within the endometrium, surrounded by free fluid**. Use of doppler US established internal vascularity via a **feeder vessel**. Normal appearances of the uterus, ovaries and adnexa.



Transvaginal transverse view - polyp with surrounding trace of free fluid.



Transvaginal longitudinal view

Transvaginal transverse view with doppler US

SYMPTOMS:

- **Menorrhagia³** (see spotting)
- **Pain³**
- **IMB³**
- **Post-menopausal bleeding (PMB)³**
- **'Spotting'** - new research theorises spotting and bleeding originates from the rupturing of the fragile vascular network within the polyp⁹.

ULTRASOUND APPEARANCES:

- **Hyperechoic foci within the endometrium⁸**.
- **Feeder vessel presence** — doppler use (research underway to study pattern of flow to determine malignancy likelihood¹⁵).
- **Surrounding oedematous fluid¹⁴** — proteinaceous fluid secreted by endometrial gland cells¹³.
- **Sessile or pedunculated nature⁸**.

DIFFERENTIAL ULTRASOUND DIAGNOSIS:

Fig.1—table representing echogenicity and its relationship to differential diagnoses⁸.

Echogenicity of Endometrial Focus	Diagnosis
Hyperechoic	Endometrial polyp
Heterogeneous	Complicated polyp – increased carcinoma risk
Hypoechoic	Prolapsed submucosal fibroid

Hyperechoic focus seen in this case—likely endometrial polyp⁸. However endometrial carcinoma, hyperplasia or a submucosal fibroid cannot be completely excluded on echogenicity alone.

FURTHER DIAGNOSTIC ULTRASOUND:

1. **Elastography** — Polyps usually soft growth¹⁶.
2. **3D US** — Allows coronal view if diagnosis is uncertain¹⁷.
3. **Contrast enhanced ultrasound** — assessment of microvasculature to determine a benign or malignant pattern¹⁸.

PHARMACOLOGICAL PITFALLS:

- **Tamoxifen** — estrogenic — known to increase thickness of endometrium¹⁰. Mimicking polyp presence. Cystic component in some cases. Listed as a carcinogen in USA¹¹.
- **Oral contraceptive⁷** — antiestrogenic — known to thin the endometrium, allowing discrepancies to be more readily detected. May potentially reduce size of polyp¹².

NON-ULTRASOUND FOLLOW-UP:

Confirmation of US findings:

- **Hysteroscopy** — Presently gold standard¹⁹.
- **Saline-infused Salpingogram (SIS)²⁰**.
- **HyCoSy** — Hysterosalpingo-contrast sonography.

Treatment:

- **Polypectomy²¹**
- **Ablation**
- **No follow-up**

To date this patient has had no further imaging or follow-up.

CONCLUSION: US is correctly the first choice and superlative imaging modality for EP evaluation, with transabdominal and transvaginal scanning a must. At present hysteroscopy is a confirmatory tool with higher sensitivity¹⁹, however future imaging improvements hope to replace the need for an invasive hysteroscopic examination. Literature suggests best treatment is currently a hysteroscopic guided polypectomy²¹, as this should eradicate symptoms.

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