

Let's talk IUC: Three too many!

A case study of three coils in one patient

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Introduction

Intrauterine contraception (IUC) is a popular and effective long-term reversible contraception method. Common complications include pain, lost threads, and irregular bleeding. Ultrasound is preferred for assessing IUCs due to its cost-effectiveness, reproducibility, and lack of ionizing radiation. Typically, an IUC should be centrally located in the endometrial cavity with the crossbar in the fundal region (Mitchell et al.,2014).

Case Presentation

A 52-year-old female with elevated prolactin levels and a history of ovarian cysts underwent a diagnostic ultrasound. The ultrasound was challenging due to an anterior wall, central submucosal fibroid (FIGO 2), complicating the endometrial cavity assessment. Although the patient did not attend for coil assessment, a levonorgestrel (LNG) coil was noted.

Initial 3D ultrasound images suggested two, possibly three, coils, but their exact number and positioning were unclear. A pelvic radiograph confirmed the presence of three LNG IUC coils. A subsequent CT scan detailed their locations: one coil was correctly positioned within the uterine cavity, the second was predominantly in the endometrial cavity with the left arm embedded 12 mm into the posterior myometrium, and the third had its stem in the cervix and horizontal arms in the lower uterine cavity.

Discussion

In cases where foreign bodies, such as coils, are embedded within body cavities, a multimodality imaging approach is essential. Ultrasound, often a first-line tool, may be limited by anatomical challenges, requiring additional imaging like X-rays, CT, and MRI for clearer visualisation (Abu-Yousef et al., 2019). CT provides detailed mapping of the coils' location, while MRI offers superior soft tissue contrast, helping guide surgical planning (Foley et al., 2020).

This case highlights the importance of collaboration between radiologists, sonographers, and clinicians, and the use of structured reports to ensure consistent, accurate diagnosis. According to Foley et al. (2020), structured reports help reduce diagnostic variability and allow for more standardised follow-up care.

Adhering to professional guidelines from the Society and College of Radiographers (SCoR) and the British Medical Ultrasound Society (BMUS) is crucial for maintaining best practices and improving patient outcomes. These guidelines emphasise the need for sonographers and radiologists to adhere to departmental protocols and encourage obtaining second opinions when faced with complex diagnostic challenges (SCoR, 2020).

Ultrasound Images

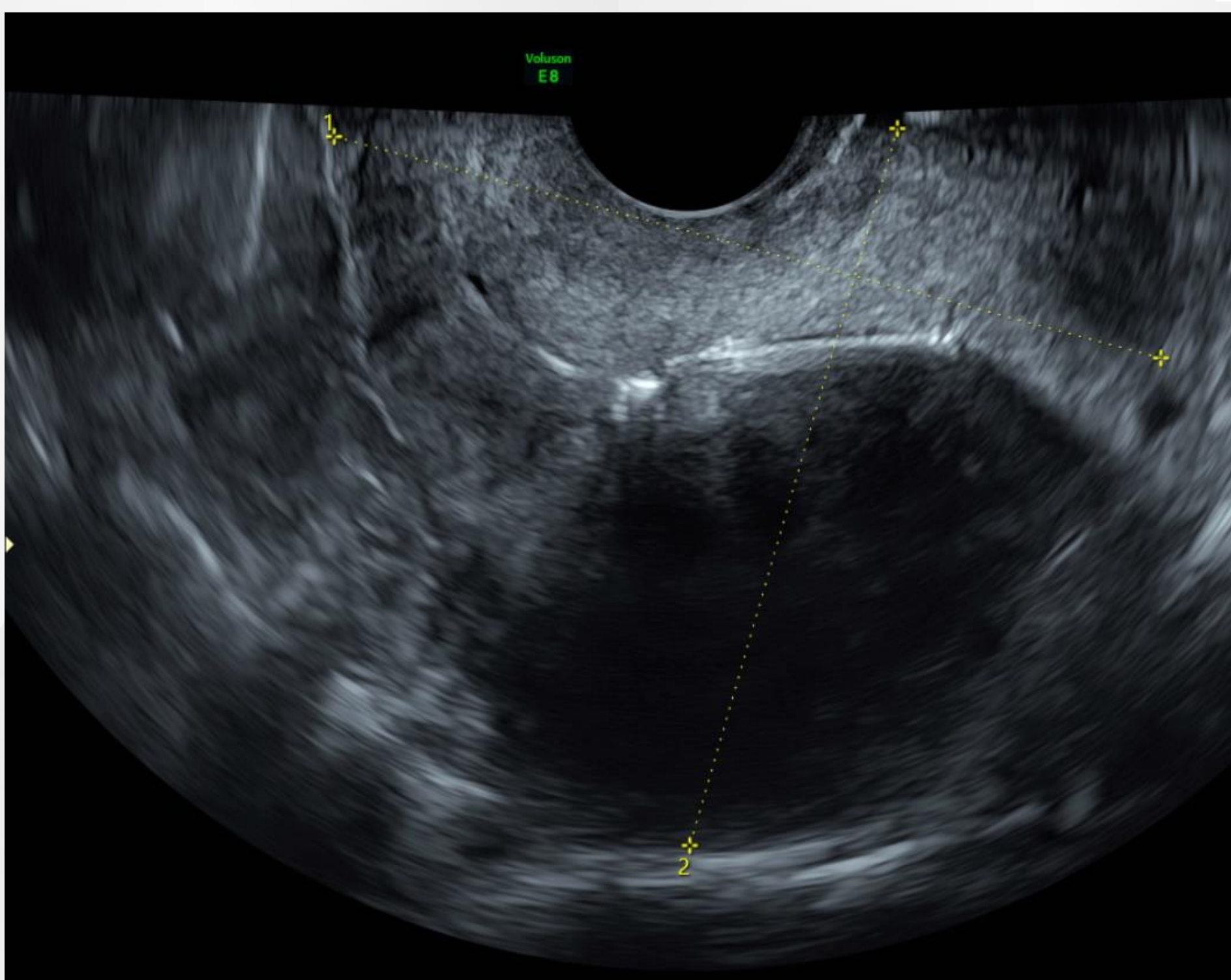


Image 1: Ultrasound image showing the longitudinal section of the uterus with the visualisation of 1 coil within the midline.

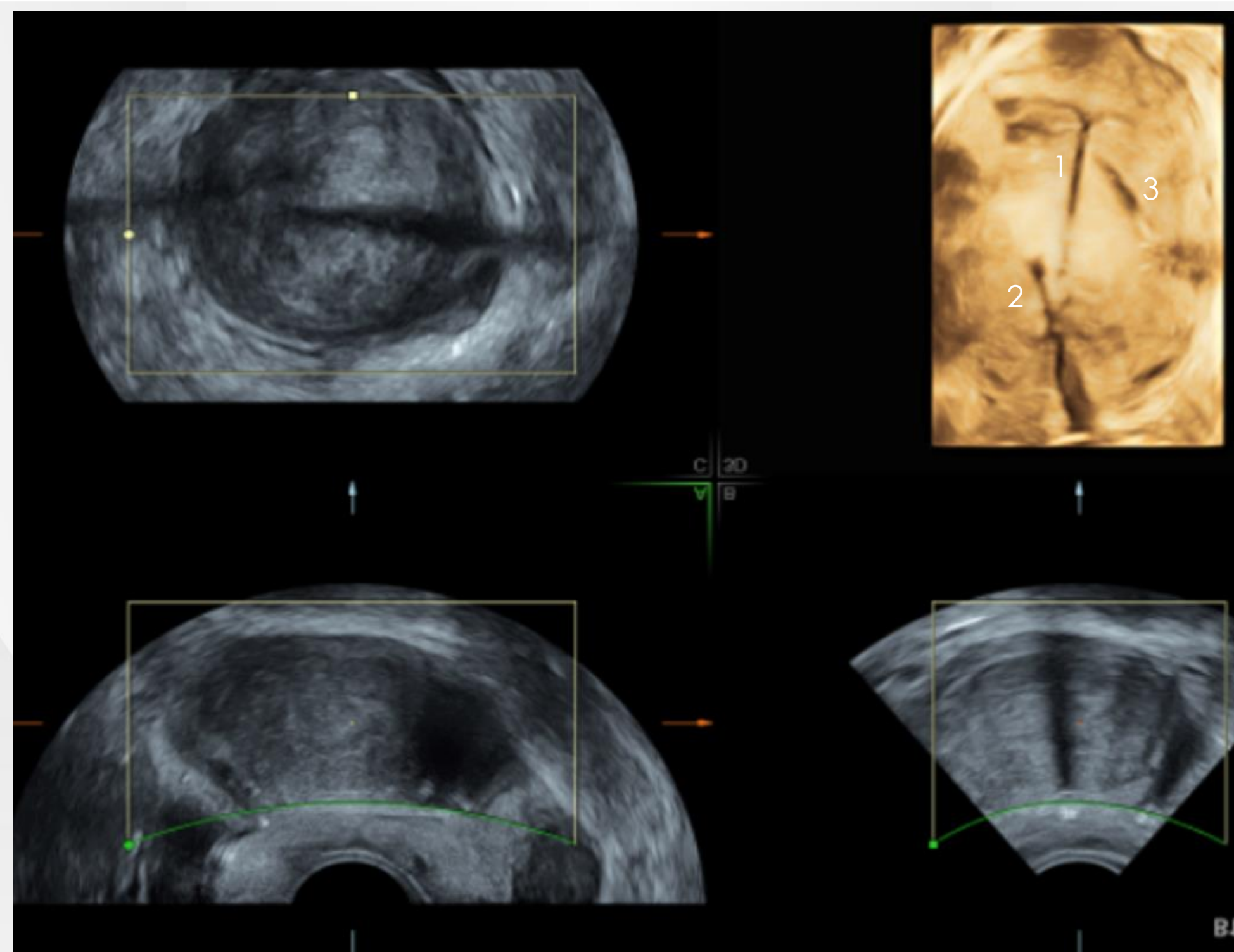
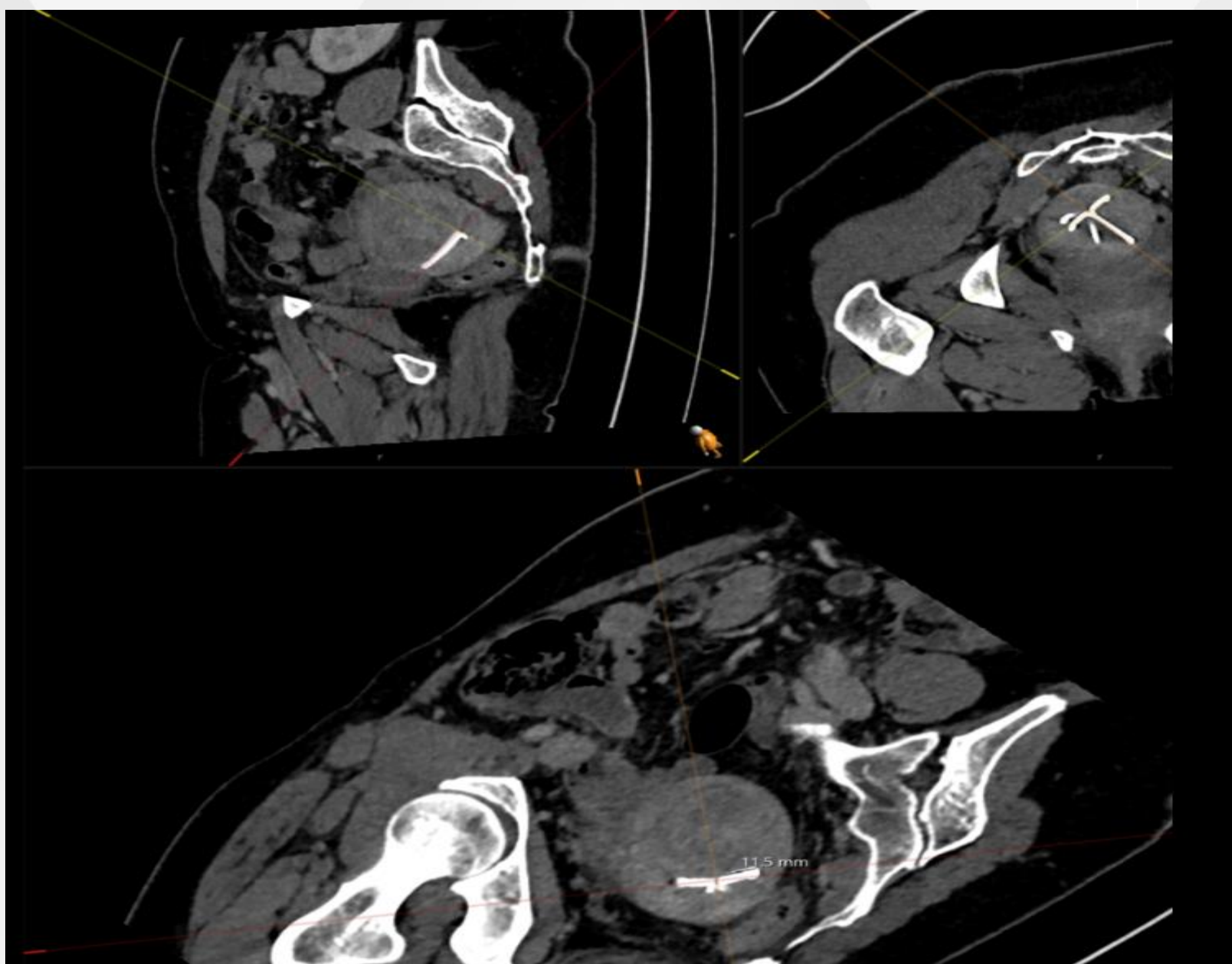


Image 2: 3D transvaginal ultrasound showing reconstruction of the above image with Shadows from 3 coils within the uterus.

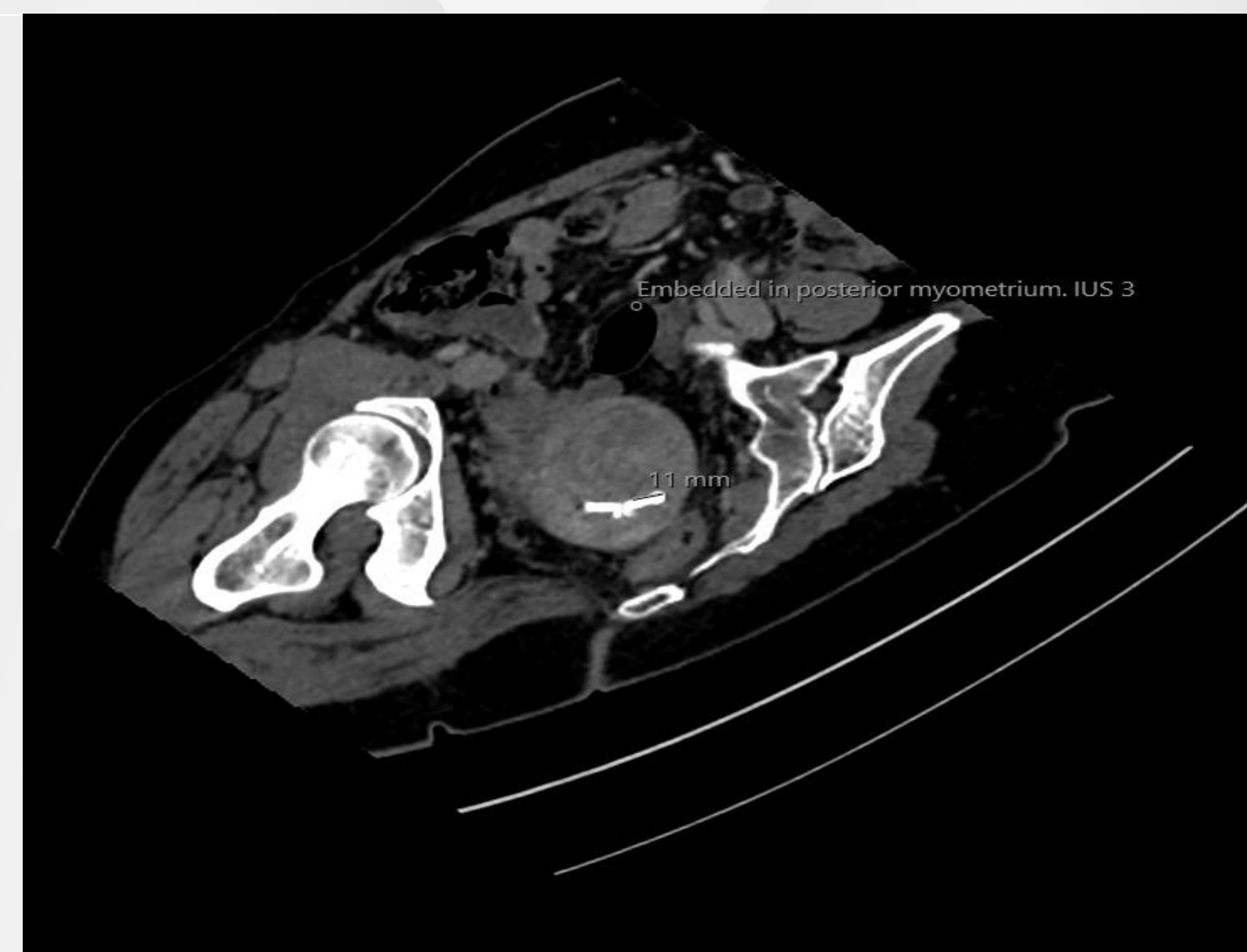


Image 3: X-ray of the pelvis demonstrating the presence of 3 coils within the region of the uterus.

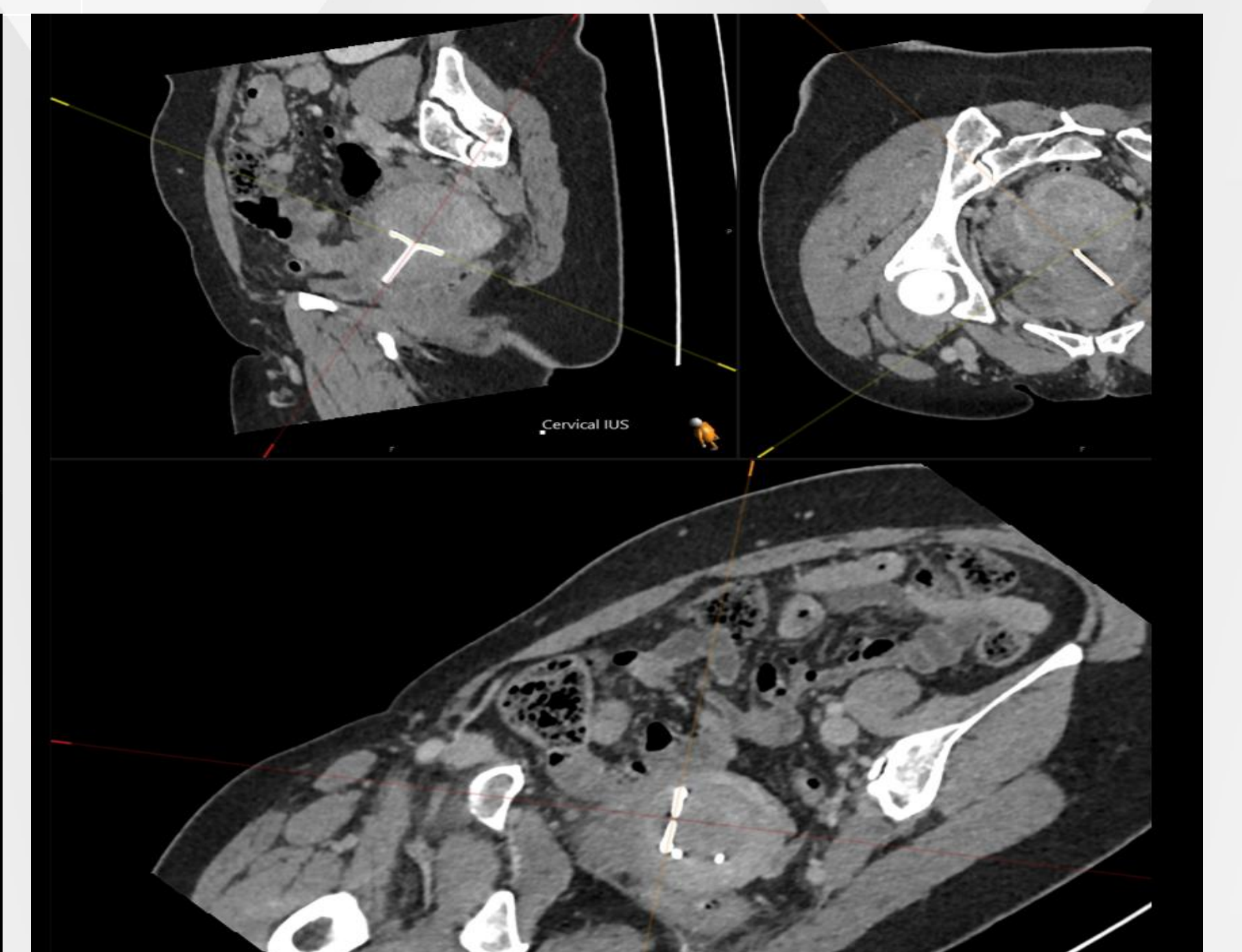
CT images showing location of 3 coils:



1.The IUS is within the uterine cavity correctly sited.



2. The IUS is predominantly lying in the endometrial cavity, with the left arm embedded by 12 mm in the posterior myometrium



3. This stem lying in the cervix with in the horizontal arms lying in the lower uterine cavity.

Conclusion

In conclusion, when ultrasound falls short due to anatomical or technical constraints, a multimodality imaging strategy is critical. It not only enhances diagnostic accuracy but also informs better clinical management strategies. Adhering to professional guidelines and fostering collaboration among imaging specialists is key to delivering optimal patient outcomes in these challenging cases.

References

Abu-Yousef, M. M., Mufid, M., & Woodward, P. J. (2019). *Ultrasound of Foreign Bodies in the Body*. Radiologic Clinics of North America, 57(5), 1033-1046.
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