



THE IMPORTANCE OF RADIOLOGIC EVALUATION IN PREMENOPAUSAL WOMEN WITH ENDOMETRIAL THICKENING

Radio-Diagnosis

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ABSTRACT

Endometrial thickening is a common finding in premenopausal women and is often considered a benign condition. However, it can also be a significant indicator of underlying pathologies, including endometrial carcinoma, particularly when the thickness exceeds normal physiological limits. Radiologic evaluation plays a crucial role in the early identification and management of these conditions. This abstract explores the importance of radiologic assessment in premenopausal women with endometrial thickening, emphasizing the need for careful interpretation of imaging findings such as ultrasound and MRI. Early detection of endometrial carcinoma in premenopausal women is essential for improving clinical outcomes and guiding appropriate treatment. Given the complexity of differentiating between benign and malignant causes of endometrial thickening, timely and accurate radiologic evaluation remains a cornerstone in reducing morbidity and improving prognosis in this patient population. Early detection through imaging significantly improves the prognosis for patients with EC, emphasizing the critical role of radiology in the management of this disease.

KEYWORDS

CASE 1

42 year old premenopausal women came to gynaecology OP with C/O abnormal uterine bleeding for 6 months.

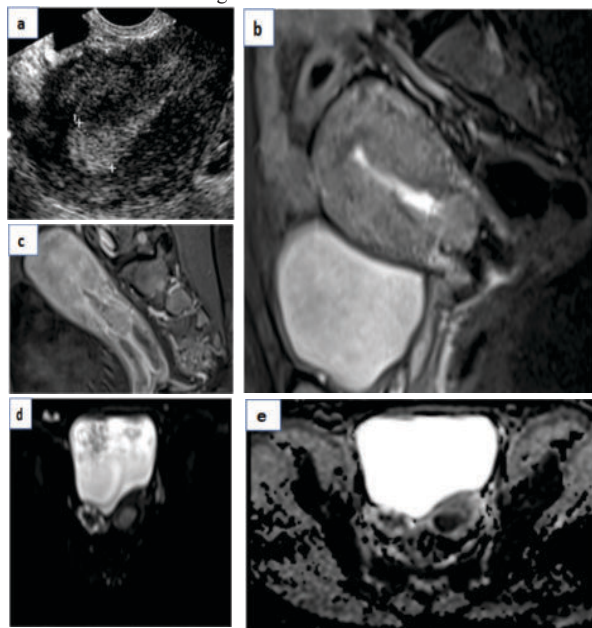


Fig 1 a) USG was done 5 years back and it showed endometrial thickening of 18 cm.

Fig 1 b), c), d) and e) MRI contrast pelvis was done which shows Lower uterine cavity has irregular margined heterogenous lesion (20 x 15 x 23mm; CC x AP x TR), predominantly involving cavity invading the right posterolateral wall. The lesion shows strong diffusion restriction on DWI/ADC sequences. The lesion seen traversing both layers of myometrium and involving serosal layer as well as adjacent fat stranding seen suggestive of extension across serosal layer. The lesion seen involving adjacent proximal cervical stroma. On post contrast, the lesion shows relatively less enhancement/vascularization in comparison with myometrium. No obvious invasion of adjacent organs like upper vagina, bladder, rectum and ovaries detected. Multiple enlarged regional and metastatic nodes detected with few of them showing adjacent fat stranding involving bilateral peri uterine, left obturator, left pre sacral, left inguinal as well as aortocaval and left para-aortic.

Endometrial lesion shows invasion of both layers of myometrium and serosal layer as well as adjacent fat stranding, suggestive of extension across serosal layer. Multiple enlarged regional and metastatic nodes detected with few of them showing adjacent fat stranding involving bilateral peri uterine, left obturator, left pre sacral, left inguinal as well as aortocaval and left para-aortic.

CASE 2

45 year old premenopausal women came to gynecology OP with C/O abnormal uterine bleeding with white discharge for 3 months.

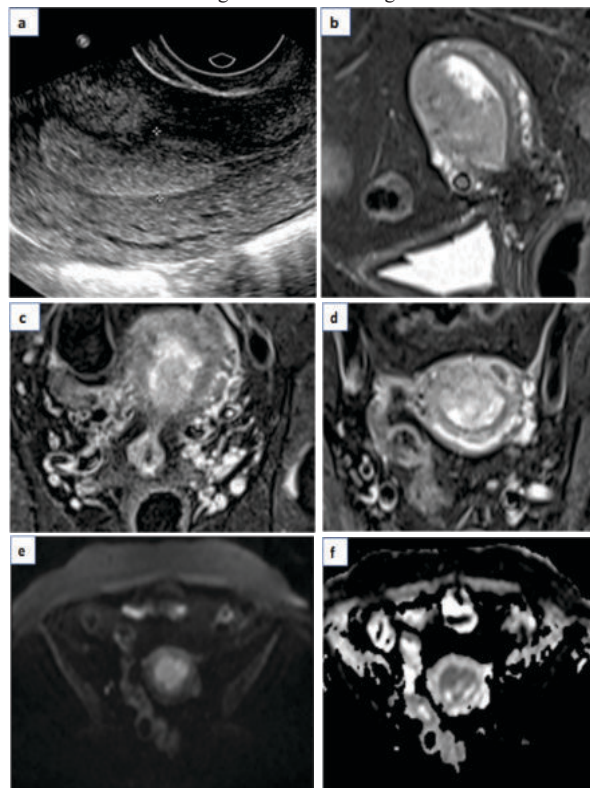


Fig 2 a) USG was done 3 years back and it showed endometrial thickening of 20 cm.

Fig 2 b), c), d), e) and f) MRI contrast pelvis was done and shows

Uterine cavity has irregular margined heterogenous lesion (59 x 25 x 33mm; CC x AP x TR) which appears to be best on anterior-fundic wall. The lesion seen traversing superficial layer of myometrium, junctional zone and outer zone as well as reaching upto serosa without breeching the serosal line. The lesion seen extending into the right isthmus of uterine cavity without extending to fallopian tube as well as its extension seen into cervical canal, however cervical stroma appears grossly normal without evidence of invasion. The lesion shows diffusion restriction on DWI/ADC sequences.

The lesion shows relatively delayed enhancement with early washout in comparison with myometrium. Peri-uterine fat appear maintained without evidence of invasion of adjacent organs like upper vagina, bladder, rectum and ovaries.

Uterine lesion consistent with endometrial carcinoma of stage IB as described.

CASE3

40 year old premenopausal women came to gynecology OP with C/O mass per vaginum with abnormal uterine bleeding for 2 months.

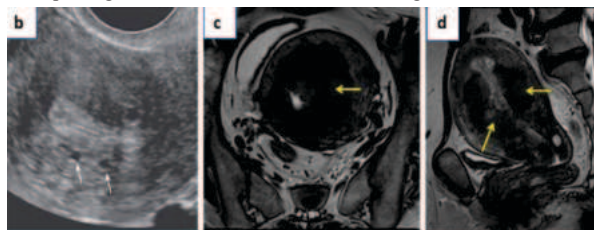


Fig 3 a) USG was done 7 years back and it showed endometrial thickening of 21 cm.

Fig 3 b) and c) MRI shows – Uterus appear enlarged with internal large heterogeneous lesion (70 x 77 x 57 mm; AP x TR x CC) occupying entire uterine cavity and invading near total thickness on right lateral wall of the myometrium as well as near half thickness of left lateral myometrium. Nodularity noted along right lateral parametrium. The lesion shows heterogeneous enhancement and heterogeneous restricted diffusion. No cystic changes or calcifications are seen within the lesion.

These imaging features may represent endometrial neoplastic disease with stromal invasion.

DISCUSSION

Endometrial thickening is a frequent clinical finding in premenopausal women, often arising as a result of hormonal fluctuations during the menstrual cycle. While most cases are benign, persistent or abnormal thickening can raise concern for underlying pathology, including endometrial carcinoma. The evaluation of endometrial thickening in premenopausal women requires a comprehensive approach, integrating clinical history, physical examination, and, importantly, radiologic imaging. The role of radiology in the timely identification and differentiation between benign and malignant causes of endometrial thickening is essential for improving patient outcomes.

CONCLUSION

In premenopausal women, endometrial thickening is a common finding, but it can be indicative of both benign and malignant conditions. Radiologic evaluation, particularly through ultrasound and MRI, plays a pivotal role in the initial assessment, providing crucial insights into the nature of the thickening and guiding subsequent management decisions. While benign causes, such as hormonal fluctuations or endometrial hyperplasia, are more common, it is essential not to overlook the possibility of endometrial carcinoma, even in premenopausal women. Timely and accurate radiologic assessment can significantly improve early detection, ensuring that malignancies are identified and managed appropriately. Ultimately, a multidisciplinary approach that combines radiologic imaging, clinical history, and histological evaluation remains key to providing optimal care and improving patient outcomes.

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