



The influence of hormone replacement therapy on the ultrasound features of the endometrium: a prospective study

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1. Introduction

The use of vaginal ultrasound has been advocated in the evaluation of the endometrial lining in postmenopausal bleeding. The odds for endometrial malignancy in cases of a regular, well visualised endometrial lining of 4 mm or less are very low [1–3]. Most large studies, however, only included patients who did not take hormonal replacement therapy (HRT). The aim of the study was to evaluate the thickness of the endometrial lining, as well as its sonographic features, in postmenopausal women on different HRT schemes.

2. Patients and methods

Four hundred eighty-four vaginal ultrasound examinations were performed in 239 consecutive postmenopausal women on HRT. Special attention was given to the sonographic features of the endometrium: [1] the endometrium thickness (ET), [2] the echogenicity of the endometrial lining (especially the presence or absence of a three-layer pattern as seen in the follicular phase of a spontaneous menstrual cycle), and [3] the presence or absence of focal lesions. Endometrial sampling was performed if indicated. 239 women entered the study, and 106 has at least one follow-up vaginal scan.

3. Results

Mean age was 54 years (standard deviation (S.D.) 5.9) with an average parity of 1.8 (S.D. 1.0). The mean age

at menopause was 49.7 years (S.D. 3.6). 64% of women were on sequential oestro-progestogen therapy, 24% on continuous oestro-progestogen, and 12% took tibolone. No longitudinal effect was found on ET due to any of the studied variables. The average ET was 5.2 mm (S.D. 2.7): 5.7 mm (S.D. 2.7) in women taking sequential HRT, versus 4.3 mm (S.D. 2.3) in the continuous oestro-progestogen schemes, and 4.6 mm (S.D. 2.3) in the tibolone group. There was a significant difference in ET between sequential and continuous schemes ($P=0.001$). In the sequential schemes, there was no difference in ET between the first oestrogen-alone phase of cycle and the oestro-progestogen phase ($P=0.6$). There was no significant influence associated with the oestrogen dosage, nor the progestogen used. Polyps were diagnosed by ultrasound in 12.1% of patients: more than half of them (54.5%) were asymptomatic. In sequential HRT, a three-layer ultrasound pattern of the endometrium was seen in 49.1% of women in the oestrogen-alone phase of the cycle, versus 13.3% in the oestro-progestogen phase ($P<0.0001$).

4. Conclusions

In defining reference values for ET in postmenopausal women, three subgroups may be considered: the women without HRT (ET: 3.6 ± 3.3 mm) [1], those on sequential HRT (5.7 ± 2.7 mm), and those on continuous HRT (4.3 ± 2.6 mm). The criteria for ET proposed in women without HRT may be used in women on HRT, but the specificity will be lower [4]. If the endometrial lining is thicker than 4 mm, endometrial disease has to be ruled out. As illustrated in the present study, focal lesions are the most likely cause. A sonographic evaluation performed in the oestrogen-alone phase of cycle may optimise the accuracy for focal lesion detection in women on sequential HRT. Given the high prevalence of polyps

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in asymptomatic women, it is unclear if all these polyps warrant hysteroscopic removal [5]. A better knowledge of the sonographic features of the endometrium in women on HRT may lead to a better management of both symptomatic and asymptomatic women. Guidelines will have to keep the balance between the avoidance of overtreatment, and the risk of missing an atypical or malignant lesion.

References

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