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ENDOMETRIAL THICKNESS DURING MENSTRUAL CYCLE IN THE REPRODUCTIVE AGED WOMEN ADMITTED TO THE IMAM KHOMEINI HOSPITAL, AHVAZ, IRAN

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ABSTRACT

Background: The endometrial thickness during the menstrual cycle is variable and increasing the endometrial thickness may be normal without any pathological reason. The primary aim of this study was to determine the endometrial thickness in the proliferative and secretory phases in the reproductive aged women, for avoiding the aggressive diagnosis procedures.

Methods: This was a descriptive analytical study on which 120 women in the reproductive age whoreferred to the Imam Khomeini hospital for routine check-up evaluated with transvaginalsonography in the proliferative and secretary phases. The endometrial thickness was measured and women who their endometrial thickness was more than 15 mm, reevaluated in proliferative phase at the next cycle. The data entry and analyzing have done using SPSS and Chi-Square and t-test were used for statistical purposes.

Results: The mean endometrial thickness in the proliferative phase was 8.8± 3.1mm and in the secretary phase was 12.1± 4.7. Totally 47 (39%) of women had endometrial thickness more than 15mm who reevaluated in the next cycle. In the reevaluation 83% of these women had normal thickness and 27% had abnormal (endometrial thickness ≥15mm) who referred for further evaluations.

Conclusion: This study showed that; in the absence of risk factors for endometrial cancer and clinical signs and symptoms, only the increase of endometrial thickness is not a factor to perform aggressive procedures.

Key words: Endometrial thickness, Transvaginalsonography, Proliferative phase, Secretary Phase.

INTRODUCTION

The endometrial thickness is variable during menstrual cycle. The thickness is varied from 1-4 mm during menstruation, to 4-8mm during proliferative, to 6-10mm during ovulation and reach 8-16 mm in the secretary phase (1). Endometrial thickness may reach 20 mm in the secretary phase which can mistakenly diagnose as hyperplasia or endometrial cancer. One of the methods to evaluate benign condition from malignant is performing transvaginal sonography in two consecutive cycles. If the endometrial thickness reduced in the second follow-up, there is no need to further evaluation (2).

The endometrial thickness' evaluation in the reproductive aged and postmenopausal women has an important role. The evaluation is more critical for women who have risk factors for endometrial cancer. The risk factors for endometrial cancer are as follow; women who are suffering from polycystic ovarian syndrome, using Tamoxifene, women with the higher risk for the breast cancer and women with an abnormal uterine bleeding (2).

Performingsonograme is the first line of diagnosis for endometrial assessment (2). Transvaginal sonogram is a noninvasive method which can estimates the endometrial thickness in the normal and abnormal situations (3). The error rate in this method is 3-10% (3,4) and the sensitivity is 93-96% (4-6).

Imaging using sonogram can distinguish between uterine bleeding with anatomical causes from un-ovulatory causes. The most common anatomical causes are liomyoma and uterine polyps. The standard transvaginal sonogram can provides valuable information about size and the location of uterine liomyomas (7). beacuse the endometrial thicknesschanges during the menstrual cycle in reproductive aged women and different factors may influence it, the transvaginal sonogram can act as a screening test with high sensitivity for differentiation of benign and malignant masses. The primary aim of this study was to evaluate the endometrial thickness in the women without clinical signs and symptoms and regular menses in the

different phases of menstrual cycle and compare the results of reevaluation in the later cycle with the first one.

METHODS

This was an analytical descriptive study which is done in 2011. We recruited 120 women with age f 15-45 years who had regular menses and did not have any clinical symptoms and came to the clinic for routine check-up. The inclusion criteria was including; normal body mass index (BMI=19.8-25) and regular menstrual cycle. Women who were used oral contraceptive pills or other hormones were excluded from study. The written consent has obtained from women prior to the study. We prepared a questionnaire and a checklist for data gathering. Women requested to come to the clinic in their proliferative phase (day 10-14) andsecretary phase (day 21-24) for doing transvaginal sonogram and endometrial thickness measures. If the endometrial thickness was more than 15 mm, they requested to come back in the following cycle and reevaluated. In reevaluation time, women with abnormal uterine thickness were referred for further evaluations.

For data entry and analyzing SPSS ver 16 was used. The T-test and Chi- square test were used for statistical purposes. The differences considered significant if $p<0.05$.

RESULTS

Of 120 women, 67 were nuliparous and 53 were multiparous. The mean endometrial thickness in the proliferative phase in the nuliparous women was 8.7±3.5 mm and in the multiparous women was 9± 2.8mm. The mean endometrial thickness in the secretary phase in the nuliparous and multiparous women was 11.5±4.6mm and 13.3±4.6mm respectively. Totally 47 (39%) of women had endometrial thickness more than 15mm who reevaluated in the later cycle. In the reevaluation 83% of these women had normal thickness and 27% had abnormal (endometrial thickness ≥15mm) who referred for further evaluations. The mean endometrial thickness in the proliferative phase in the reevaluation time for nuliparous and multiparous women was 10.1±3.4mm and 10.6±3.5mm respectively. There was no any relationship between number of pregnancies and endometrial thickness.

DISCUSSION

Results of this study showed that; increased endometrial thickness in reproductive aged women who do not have any risk factor for endometrial cancer and have regular cycles, is

non-pathological finding and in 83% of women only need a reevaluation in the following cycle.

In the study conducted by Smith et al, which evaluated the endometrial thickness in the postmenopausal women just before biopsy, results showed that; because most postmenopausal women who had endometrial cancer, may do not have vaginal bleeding, the transvaginal sonogram is most beneficial for them. The researchers determined the cut-off point of 11mm for endometrialthickness in asymptomatic women (8).

In a study was done by Fisher on which reproductive aged women were evaluated with transvaginalsonography for endometrial thickness, results showed that; endometrial thickness in the proliferative and secretary phases were 5.8±2mm and 7.2±2.8mm respectively (2).
In a study done by Mehrabianetet al., in Iran, results showed that sonography can provide good information for decision making about normal and pathological tissues in endometer (9).
Dastjerdi et al., conducted a study in Tehran, Iran and found; assessment of endometrial thickness using transvaginalsonography is noninvasive method and is comparable with biopsy and hysteroscopy (10).In another study by Kuadis et al., the researchers found that; if they consider the cut-off point of endometrial thickness equal 9 for pathological findings, the sensitivity, specifity, positive and negative predictive values of transvaginalsonography will reach to 100%, 99%, 90% and 80% respectively (11).

CONCLUSION

Results of this study showed that beside of evaluation of endometrial thickness in one cycle, reevaluation will enable the health providers to decide about patients properly. The transvaginalsonography is safe, accessible and cost-effective method for endometrial evaluation.and increased endometrial thickness in secretory phase of an asymotomatic reproductive aged women is not an indication for aggressive management such as curettage but reevaluation in the proliferative phase of the next cycle is recommended.

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