



Endometrial Ossification- A Case Report

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Abstract:

Endometrial ossification is a rare occurrence, seen in reproductive age group. Patients may have history of endometritis or recurrent abortions. We report a case of endometrial ossification occurring 3 months after a diagnostic curettage done to find out the cause of secondary infertility. This curettage had not revealed any histological abnormality. However, the patient developed intermittent bleeding per vagina subsequent to the procedure. A repeat curettage was done and endometrial tissue obtained. The diagnosis of endometrial ossification was made on histopathology which showed endometrial tissue intermingled with bony tissue.

Key words: Endometrium, Endometritis, Abortion, Pregnancy, Curettage.

Introduction

Ossification of the endometrium is a rare occurrence [1-3]. It has been variously described as heterotypic intrauterine bone formation, ectopic intrauterine bone and osseous metaplasia of endometrium [4-7]. Most of the patients are in reproductive age group with a history of endometritis, recurrent abortions or menstrual irregularities. The patients with endometrial ossification may present with intrauterine pain, unexplained irregular vaginal bleeding, discharge or secondary infertility [7]. Rarely, endometrial diagnosis of mixed mullerian tumor may be made. Here, we describe a rare case of endometrial ossification occurring after a diagnostic curettage done to find out the cause of secondary infertility.

Case Report

A 25-year-old Gravida 1, Para 1 female presented with intermittent bleeding per vagina for last 3 months. She had one full-term normal delivery 8 years back. Three months back, she underwent dilatation and curettage to obtain endometrial tissue for finding a cause for secondary infertility. Histopathology showed secretory endometrium. Patient developed intermittent bleeding per vagina subsequent to procedure, although she was having normal menstrual history prior to the procedure. Physical and pelvic examination did not reveal any significant finding. Endometrial curettage was performed again to find out the cause of intermittent bleeding.

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On gross examination, the specimen consisted of multiple reddish-brown soft and bony pieces of tissue together measuring 2x1x0.5 cm. The soft pieces were processed separately and the bony pieces were decalcified and sections made. The histological examination of tissue showed endometrial tissue showing secretory glands and calcified areas with bone formation [Fig.1]. Various areas of biopsy showed calcification and ossification of endometrial tissue. There were some areas of poorly formed woven bone some of which were dead. Secretory endometrial glands lying in intertrabecular areas were noted [Fig.2]. No inflammation was observed. There was no hyperplasia, atypia or malignancy. The serum biochemical parameters related to calcium metabolism were normal. The diagnosis of endometrial ossification was made based on the histopathological examination showing bony tissue intermingled with endometrial tissue.

Discussion

The presence of calcification and ossification of endometrium is an interesting form of heterotopia because of its rarity and because of its persistence inspite of monthly physiological cleansing during

menstruation. It has been ascribed most commonly to previous abortions either as a process initiated by the absorption into endometrium of calcified element of the conceptus or an independent process in a post abortion-reparative process which has been modified by inflammation [8-11].

The endometrial ossification in our case occurred after diagnostic curettage obtained to find out the cause of secondary infertility. Evidently this was a case of metaplasia as the tissue obtained at the time of first curettage showed only normal secretory endometrium and the second endometrial biopsy tissue showed the presence of endometrial tissue within bony trabeculae indicating metaplastic bone formation. Metaplasia occurs as a result of reprogramming of stem cells or of undifferentiated mesenchymal cells, which differentiate along a new pathway. This differentiation is brought about by signals generated by cytokines, growth factors, and extracellular matrix components in the cell's environment [12,13]. In our case, these signals were possibly generated by transient inflammation consequent to the procedure of dilatation and curettage. The endometrial tissue obtained along with the bone showed normal physiologically

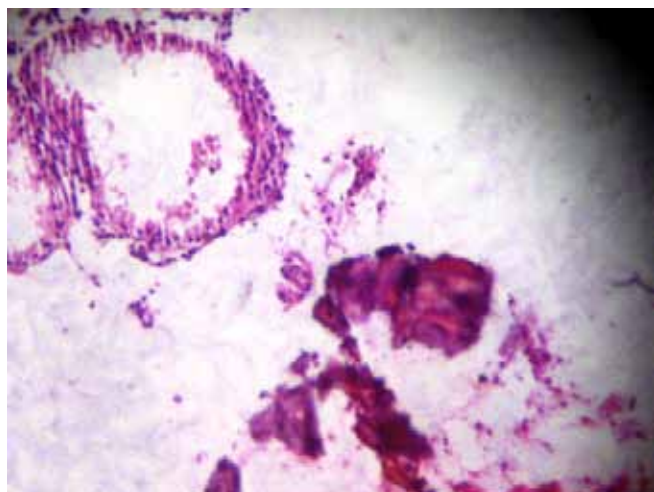


Fig.1: High power image showing secretory glands and calcification (H&E, 40X).

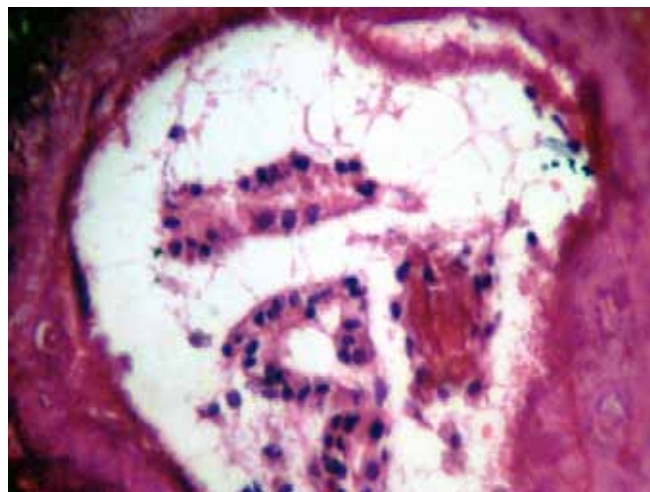


Fig.2: High power view showing secretory glands within bony trabeculae (H&E, 40X).

responding endometrium with no inflammation. The lack of inflammation may be explained by physiological cleansing during intermittent bleeding which occurred between first and second curettage. The absence of inflammation has been reported earlier in cases of post-abortion endometrial ossification [1]. The bone formed was also dying of presumably because it was unable to establish an adequate blood supply due to frequent vaginal bleeding [1].

Conclusion

Endometrial ossification is a rare phenomenon which follows endometrial injury and inflammation.

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