

Bony Womb: A Rare Case Report

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Abstract

Endometrial osseous metaplasia (EOM) / Osseous metaplasia of endometrium is a very rare pathological entity which can cause infertility and menorrhagia in females. We present a 30 year old female presenting to the obstetrics and gynaecology outpatient department with chief complaints of infertility. Her menstrual history was normal. She did not have any other significant complaints. Her laboratory investigations were within normal limits. A pelvic ultrasound was performed which showed a significantly thickened endometrium. Following which an endometrial curetting was done and the same was sent to histopathological department. Grossly the specimen was received in multiple fragments aggregating to 2cc. Among the soft tissue fragments, bits of hard and gritty fragments were also noted. Microscopy showed tubular endometrial glands admixed with endometrial stroma and numerous mature lamellar and woven bony trabeculae. No evidence of granuloma/ hyperplasia/ malignancy noted in the multiple sections examined.

Keywords: Osseous metaplasia, endometrium, Infertility.

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INTRODUCTION

Endometrial osseous metaplasia is a rare condition with presence of mature or immature bone in the endometrial cavity. It varies from reactive, degenerative lesions to those having pre-neoplastic potential or those able to associate with malignancy.

CASE REPORT

We present a 30 year old female presenting to the obstetrics and gynaecology outpatient department with chief complaints of infertility. Her menstrual history was normal. She did not have any other

significant complaints. Her laboratory investigations were within normal limits. A pelvic ultrasound was performed which showed a significantly thickened endometrium. Following which an endometrial curetting was done and the same was sent to histopathological department. Grossly the specimen was received in multiple fragments aggregating to 2cc. Among the soft tissue fragments, bits of hard and gritty fragments were also noted. Microscopy showed tubular endometrial glands admixed with endometrial stroma and numerous mature lamellar and woven bony trabeculae. No evidence of granuloma/ hyperplasia/ malignancy noted in the multiple sections examined.

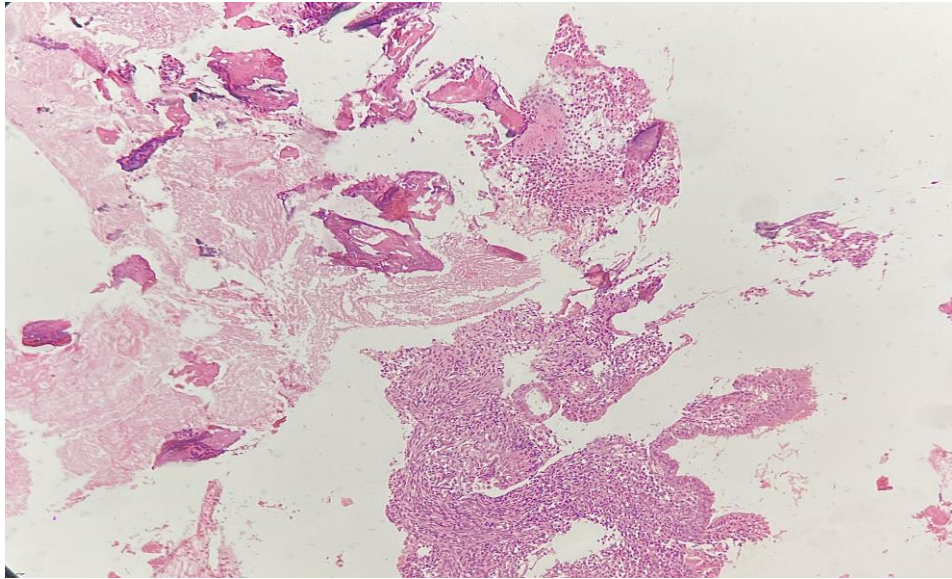


Fig 1: Histology showing Endometrial glands and stroma with areas of lamellar bone (H&E x 100x)

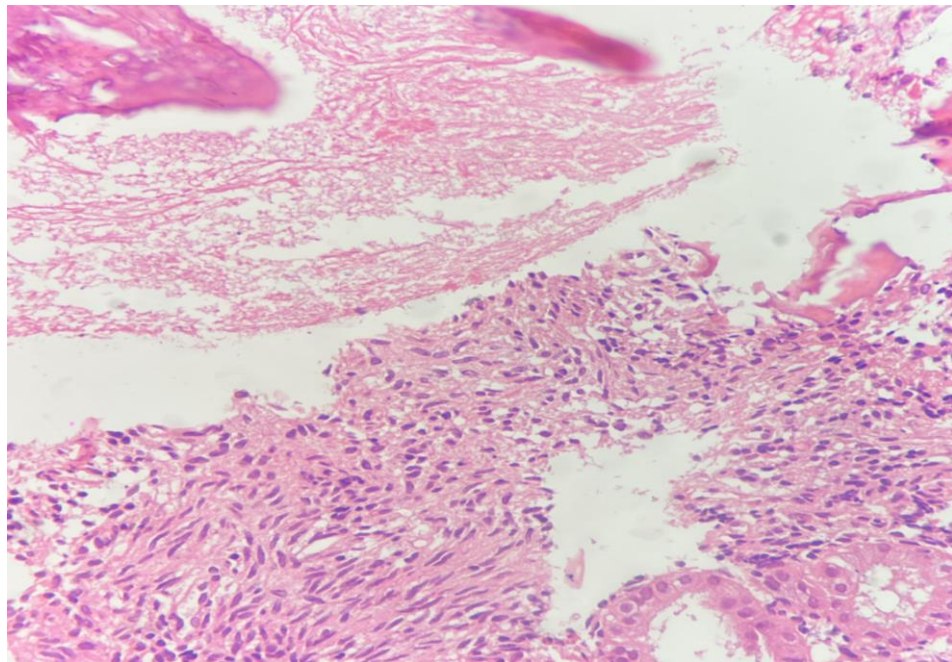


Fig 2: Histology showing Endometrial glands and stroma with foci of lamellar bone (H&E x 200x)

DISCUSSION

Endometrial osseous metaplasia (EOM) is a very rare pathological entity characterised by metaplastic transformation of endometrium in to mature and immature bone [1]. The genesis of this metaplasia is unclear. In 1884, Virchow attributed the formation of ossified tissue within endometrium to de novo differentiation of fibroblasts into osteoblasts [2].

The possible theories proposed for the etiopathogenesis include metaplastic ossification from multipotent stromal cells in response to chronic inflammation, osseous differentiation from mesenchymal stem cells, dystrophic calcification, genitourinary tuberculosis, heterotopia, retained bones

of fetus after spontaneous / therapeutic abortion [3-5]. It is suggested that the persistent embryonic bones may keep developing after curettage in case of abortions or the osteogenesis process may be induced by embryonal cells / hypothetic pluripotential endometrial cells. The chronic inflammatory state in genital tuberculosis, unspecific chronic endometritis or pyometra may act as promoter of secondary osteogenesis form non osseous endometrial tissue. It may also stimulate the mesenchymal cells that have inherent property of metaplasia and can differentiate into chondroblasts and osteoblasts.

The clinical presentation may be varied from being completely asymptomatic, menstrual

irregularities, dyspareunia, vaginal discharge, pelvic pain or presents as secondary infertility and recurrent abortions [6-9]. The present case presented with complaints of infertility.

Endometrial metaplasias are broadly divided in to epithelial metaplasias and non epithelial metaplasias. Epithelial metaplasias include squamous metaplasia, tubal metaplasia, mucinous metaplasia, eosinophilic metaplasia, papillary metaplasia, hobnail metaplasia and

secretory metaplasia. Non epithelial metaplasias include smooth muscle metaplasia, osseous metaplasia, cartilaginous metaplasia, fatty change, glial tissue, foam cell change.

EOM is considered as an endogenous nonneoplastic pathological condition as it does not elicit a tissue reaction in the adjacent endometrium and the endometrial tissue also shows normal regular cyclical changes [10].

Table-1: Review of similar case reports in literature

Reference number	Age (years)	Associated risk factors	Presenting symptoms	Modality of diagnosis
10	25	Medical termination of pregnancy by dilatation and curettage at 8 weeks of gestation	Infertility	Bony spicules removed using hysteroscopic forceps
11	28	One miscarriage with dilatation and curettage at 13 weeks of gestation	Menorrhagia, secondary infertility	Endometrial curettage
12	42	Type II diabetes	Menometrorrhagia and dysmenorrhoea	Total laproscopic hysterectomy
Present case	30	No comorbids	Infertility	Endometrial curettage

CONCLUSION

Endometrial osseous metaplasias are extremely rare pathological conditions which may be misinterpreted. It is important to recognize the non-neoplastic nature of this entity to avoid misdiagnosis as malignant mixed mullerian tumor. Osseous metaplasia can be deeply embedded in the uterine endometrial tissue and may have the same contraceptive effect as an intrauterine contraceptive device which results in primary/ secondary infertility.

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