CASE REPORT

Endometrial cartilaginous metaplasia: A case report with literature review

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ABSTRACT

Endometrial metaplasias are of two types, epithelial metaplasia which is commonly encountered and stromal metaplasia, unusually seen. This includes formation within endometrial stroma, islands of smooth muscle, cartilage, and bone. Endometrial stromal (cartilaginous) metaplasias are conditions frequently overlooked and misdiagnosed. Hence, a careful clinical and histopathological examination is required to avoid the misinterpretation of non-tumor cartilaginous foci as a component of malignant neoplasm. Herein, we report a rare case of endometrial cartilaginous metaplasia which was an incidental finding in a 38-year-old female with third degree uterovaginal prolapse.

Key Words: Chronic inflammation, endometrial stromal metaplasia, heterotopia

INTRODUCTION

The mesenchymal metaplasias are a rare phenomenon;[1] varying from reactive, degenerative lesions to those able to associate with malignancy or those having a preneoplastic potential.[2]

The main significance is that they should not be mistaken for more serious processes, particularly the heterologous elements of a carcinosarcoma.[1] Hormonal or irritative stimuli are the main inducing factors, although some metaplasias have a mutational origin.[2] It should be noted that in some instances the presence of cartilage or bone is the result of some retained fetal parts.[3] Clinically, the symptoms range from a casual finding in an otherwise asymptomatic woman to menstrual irregularities,[4-6] pelvic pain,[5,6] dyspareunia, and vaginal discharge.[4] The aim of this review is to update current issues and provide a practical clinicopathological approach.

CASE REPORT

A 38-year-old multiparous female, with obstetric score of gravida 4, Para 4, live birth 4, abortion 0, presented with third degree uterovaginal prolapse (recto, cysto, and enterocele) for which she underwent transvaginal hysterectomy.

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Duration between the last pregnancy and hysterectomy was 7 years. There was no previous history of any intrauterine contraceptive device insertion. Also, there was no history of previous surgical intervention like dilatation and curettage after the last pregnancy or between pregnancies. There was no history of discharge per vagina, fever, or pelvic pain.

Her menstrual cycles were regular, 5-7 days/30 days. However, a history of passage of clots and dysmennorhoea was present.

Hysterectomy specimen received for histopathological examination revealed the uterus with cervix measuring 8 × 3 × 2 cm. The cut section showed a tiny gray-white smooth, glistening rice grain like lesion measuring approximately 0.6 × 0.2 cm was embedded in the substance of uterus. An intramural fibroid measuring 2 cm in diameter, firm in consistency, showing whorled appearance was noted [Figures 1 and 2].

Microscopic examination revealed unremarkable squamocolumnar junction of cervix with squamous

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metaplasia of few cervical glands. Chronic inflammatory infiltrate was noted in cervical stroma.

A section from the endometrium incidentally showed a solitary focus of well-formed hyaline cartilage in the endometrial stroma. Transition between stromal and cartilaginous cells was evident, which helped us to identify it as metaplastic. The surrounding endometrial tissue showed secretory changes. Inflammatory reaction and necrosis were absent. No evidence of granuloma was observed. Myometrium revealed adenomyotic foci with an intramural fibroid [Figure 3].

A histological diagnosis of endometrial cartilaginous metaplasia with adenomyosis and leiomyoma-uterus was made.

DISCUSSION

Endometrial mesenchymal metaplasias are less frequent than epithelial metaplasia. Endometrial metaplasias have been classified by Hendrickson and Kempson into three groups-epithelial, mesenchymal, and glial.[1]

The newer World Health Organization (WHO) classification divides them into those with epithelial and non-epithelial changes.[1]

WHO classification of endometrial metaplasias and related changes:[1]

1. Epithelial metaplasias and related changes
2. Non-epithelial metaplastic and related changes
    - Smooth muscle metaplasia
    - Osseous metaplasia
    - Cartilaginous metaplasia
    - Fatty change
    - Glial tissue
    - Foam cell change

Heterotopia is the occurrence of a mature tissue at an abnormal location. Heterotopic uterine cartilage can be of metaplastic origin or it can result from the displacement and retention of fetal tissues in the uterine wall. The multipotent cells present in normal endometrial stroma can show metaplastic transformation into various elements, including the cartilage.[7] Such cartilaginous metaplasia usually follows trauma secondary to childbirth.[8] The history of multiparity in our case supports the concept of metaplasia.

Heterotopic uterine cartilage of metaplastic origin may occur as solitary or multiple foci, and may be located in the endometrium or even in the stroma of endometrial polyp. The lesion may be an incidental finding as was in our case. However, even menorrhagia may occur.[8]

Figure 1: Cut section of uterus showing tiny gray white lesion in the endometrium and an intramural fibroid

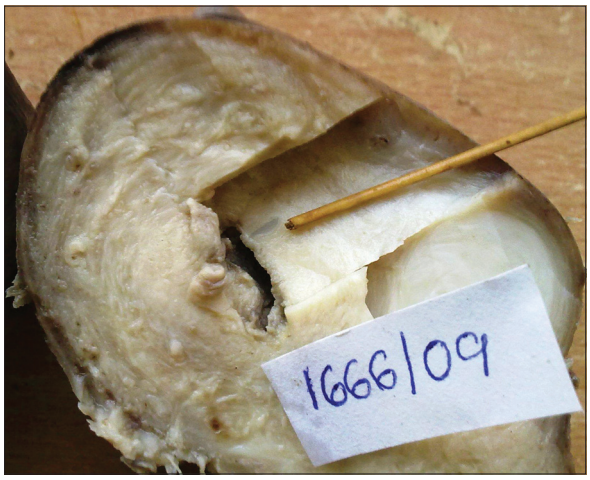

Figure 2: Glistening, gray-white lesion in the endometrium

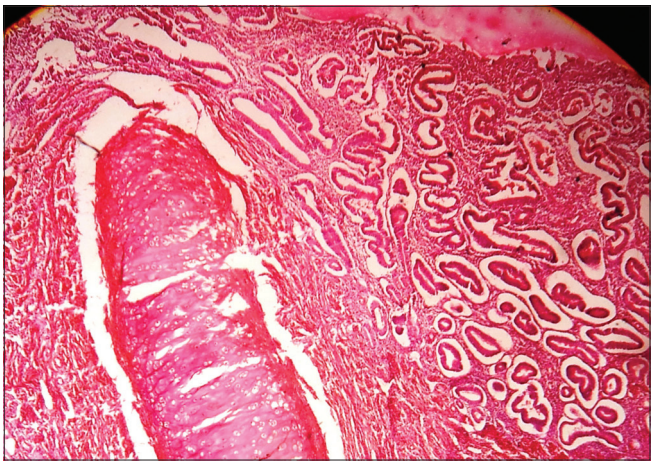

Figure 3: Photomicrograph showing island of cartilage surrounded by endometrial tissue (H and E, ×10)

Genital tuberculosis, unspecific chronic endometritis, or pyometra are other sources of chronic inflammation such as that occurring after retained embryonic tissue, and this inflammation acts as a promoter of secondary changes.[5]

In India, endometrial tuberculosis should be ruled out as it can cause infertility as well as chondrogenesis.[4]

Chronic endometritis also stimulates the proliferation of mesenchymal cells that have the inherent property of metaplasia and can differentiate into chondroblasts or osteoblasts.[4]

Other mechanisms proposed for uterine cartilage formation include hypercalcemia and hyperoestrinism. Dystrophic calcification and cartilage formation may be secondary to chronic inflammation in pyometra. Another interesting mechanism is the iatrogenic implantation of the fetal tissue, including the cartilage, into the uterine wall following dilatation and curettage.[7]

CONCLUSION

Endometrial stromal (cartilaginous) metaplasias are conditions frequently overlooked and misdiagnosed.[2] It is important to recognize the non-neoplastic nature of this condition to differentiate it from malignant mixed mullerian tumor of the uterus. Hence, a careful clinical and histopathological examination is required to avoid the misinterpretation of non-tumor cartilaginous foci as a component of malignant neoplasm.

REFERENCES

1. Silverberg SG, Tabbara SO. The uterine corpus. In: Silverberg SG, editor. Principles and Practices of Surgical Pathology and Cytopathology. 3rd ed. USA: Churchill Livingstone; 1997. p. 2470-2.
2. Nicolae A, Preda O, Nogales FF. Endometrial metaplasias and reactive changes: A spectrum of altered differentiation. J Clin Pathol 2011;64:97-106.
3. Tyagi SP, Saxena K, Rizvi R, Langley FA. Fetal remnants in the uterus and their relation to other uterine heterotopia. Histopathology 1979;3:339-45.
4. Cayuela E, Perez-Medina T, Vilanova J, Alejo M, Cañadas P. True osseous metaplasia of the endometrium: The bone is not from a fetus. Fertil Steril 2009;91:1293 e1-e4.
5. Umashankar T, Patted S, Handigund R. Endometrial osseous metaplasia: Clinicopathological study of a case and literature review. J Hum Reprod Sci 2010;3:102-4.
6. Bahçeci M, Demirel LC. Osseous metaplasia of the endometrium: A rare cause of infertility and its hysteroscopic management. Hum Reprod 1996;11:2537-9.
7. Sethi S, Bhatnagar S, Sethi S. Heterotopic chondroid tissue in the uterus. Indian J Pathol Microbiol 2008;51:568-9.
8. Madiwale C, Dahanuka S. Heterotopic uterine cartilage. J Postgrad Med 2001;47:281.

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