

Case Report

Osseous Metaplasia of Cervix Mimicking Cervical Cancer – A Rare Case Report

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ABSTRACT

Osseous metaplasia (OM) of the cervix without involvement of the uterus is an extremely rare entity. Only few cases had been reported in the literature. We reported a rare case of OM of the cervix clinically mimicking cervical cancer. A 52-year-old female presented with chief complaints of leukorrhea and an unusual sensation of mass in the vagina. On clinical examination, the uterus, adnexa, pouch of Douglas, vulva, and perineum-all were normal except the cervix which was hypertrophied with surface irregularities. Histopathological examination of the cervix showed OM of the cervix. Since this is a benign entity, proper diagnosis is essential to avoid misdiagnosis of malignant tumors, especially malignant mesenchymal tumors.

KEYWORDS: Cervical cancer, cervix, osseous metaplasia

INTRODUCTION

Osseous metaplasia (OM) is a nonneoplastic condition, in which nonosseous soft tissue is replaced by bone. The systems most commonly affected by this condition are musculoskeletal and central nervous systems.^[1] Different other soft-tissue organs commonly showing this phenomenon include the colon, thyroid, and adrenal gland.^[2-4] However, OM of cervix is very rarely reported.^[5-11] The clinical presentation of OM of the cervix includes dyspareunia, pelvic pain, menstrual irregularities, postcoital bleeding, infertility, sterility, and bloody vaginal discharge.^[12] Here, we reported a case of OM of the cervix clinically mimicking as cervical tumor.

CASE REPORT

A 52-year-old female is an obstetric and gynecological outpatient with the chief complaint of leukorrhea and an unusual sensation of mass in the vagina. On clinical examination, external genitalia, vulva, and perineum-all were normal. A transvaginal ultrasound was done in the radiodiagnosis department which showed a normal-sized uterus with normal echogenicity. Both adnexa were normal and the pouch of Douglas was free from fluid. Only the cervix was hypertrophied and showed surface irregularities. A provisional diagnosis of cervical carcinoma was made. Cervical

Pap smear examined and no intraepithelial lesion was found. Few squamous metaplastic cells were obtained. A small whitish area was found in colposcopy. A punch biopsy from the growth was taken and sent to our department for histopathological examination. Multiple fragmented tissue bits were received. On examination of the histopathological sections, it was found cervical squamous epithelium in fragmented bits and multiple bits of bony fragments with marrow elements at places and necroing inflammatory exudate. The final diagnosis was given as OM of the cervix.

DISCUSSION

Metaplasia is defined as a reversible condition, in which one adult cell is replaced by another adult cell (fully differentiated) within a given tissue.^[13] The most common type of metaplasia is the replacement of squamous cells with glandular cells and vice versa.^[14] OM is defined as a transformation of nonosseous soft tissue into bone, leading to the formation of heterotopic normal bone tissue in soft tissue. Metaplasia of the cervix is represented by the replacement of the endocervical

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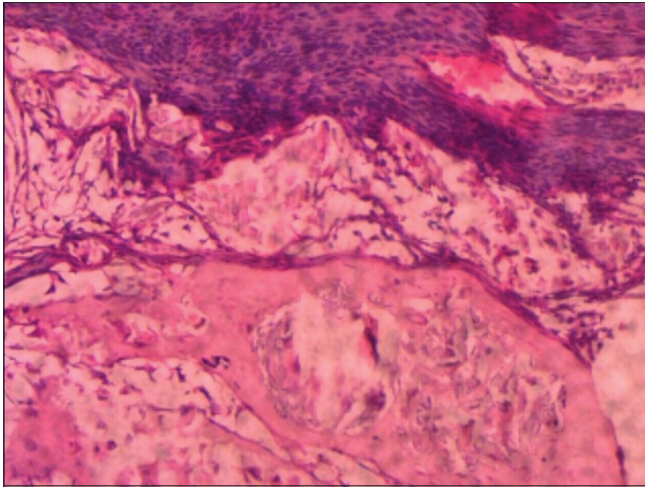


Figure 1: Hyperplastic squamous epithelium of ectocervix and necrotic debris along with heterotopic bone underlying it (H and E, ×400)

epithelium by tubal, transitional, squamous, endometrial, cartilaginous, or osseous tissues.^[15] Here, we are reporting a rare case of OM of the cervix. The incidence of OM in females is 0.3 per 1000 women.^[7] OM may be congenital or acquired.^[16] Injury to the cervix either by surgical trauma or by recurrent infection initiates the process, in which local osteogenic factor stimulates the differentiation of fibroblast into osteoblast.^[12] Other studies hypothesized that OM is secondary to abortion and retention of fetal bone which may initiate osteogenesis.^[6] The systems most commonly affected by OM are the musculoskeletal and central nervous systems following injury.^[1] However, OM of the cervix without associated OM of the uterus is extremely rare. OM of the cervix clinically presents with leukorrhea, pelvic pain, menstrual irregularities, and postcoital bleeding. Very few cases of OM of the cervix were reported in the literature with different clinical presentations. With the exception of a case reported by Alsaqobi and Al-Brahim, none of them presented clinically with that of mimicking cervical tumor as in our case.^[16] In our case, the patient presented with leukorrhea; and on clinical examination, the provisional diagnosis was cervical carcinoma. A history of recurrent infection was noted and possibly attributed in our case. On rare occasions, OM of the cervix can mimic malignancy as in our case. A biopsy followed by histopathological examination helps in making the correct diagnosis. In our case [Figure 1] Hyperplastic squamous epithelium of ectocervix and necrotic debris is noted along with heterotopic bone underlying it. Fragments of heterotopic bone attached with fragments of ectocervical epithelium and fatty marrow is noted in Figure 2.

In our case, OM was limited to the cervix which was also evidenced by normal echogenicity of the uterus on

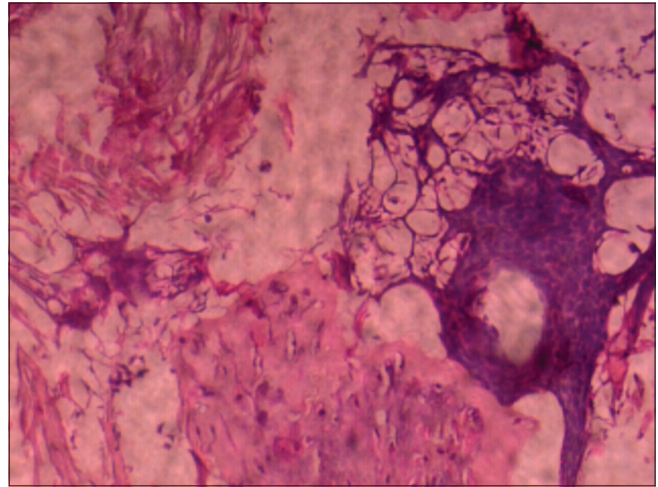


Figure 2: Fragments of heterotopic bone attached with fragments of ectocervical epithelium and fatty marrow (H and E, ×400)

ultrasound. Since calcification can mimic the appearance of bone on ultrasound, to diagnose a case of OM, the disorders leading to either metastatic or dystrophic calcification are of paramount importance.

CONCLUSION

Due to its rarity, OM of the cervix without the involvement of the uterus is not a well-recognized entity. Since this is a benign condition and can be treated adequately with resection, a definitive diagnosis is very important to avoid misdiagnosis of the entity as a malignant tumor which requires more radical treatment.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Shehab D, Elgazzar AH, Collier BD. Heterotopic ossification mimicking infection scintigraphic evaluation. *J Clin Nucl Med* 2002;43:346-53.
2. Chun JS, Hong R, Kim JA. Osseous metaplasia with mature

- bone formation of the thyroid gland: Three case reports. *Oncol Lett* 2013;6:977-9.
3. Czerwionka-Szaflarska M, Bala G. Osseous metaplasia in colon of 16 years old girl with ulcerative colitis. *Am J Case Reports* 2004;5:313-7.
 4. Lattin GE Jr., Sturgill ED, Tujo CA, Marko J, Sanchez-Maldonado KW, Craig WD, *et al.* From the radiologic pathology archives: Adrenal tumors and tumor-like conditions in the adult: Radiologic-pathologic correlation. *Radiographics* 2014;34:805-29.
 5. Bedaiwy MA, Goldberg JM, Biscotti CV. Recurrent osseous metaplasia of the cervix after loop electrosurgical excision. *Obstet Gynecol* 2001;98:968-70.
 6. Sabatini L, Rainey AJ, Tenuwara W, Webb JB. Osseous metaplasia of cervical epithelium. *BJOG* 2001;108:333-4.
 7. Cicinelli E, Stanziano A, Parisi C, Marinaccio M, Causio F. Hysteroscopic diagnosis and treatment of endocervical ossification: A case report. *J Minim Invasive Gynecol* 2005;12:159-61.
 8. Polat I, Sahin O, Yildirim G, Karaman E, Erim A, Tekirdag AI. Osseous metaplasia of the cervix and endometrium: A case of secondary infertility. *Fertil Steril* 2011;95:2434.e1-4.
 9. Mandato VD, Sacchetti F, Gelli MC, La Sala GB. A hard cervix: Microscopic examination revealed that a rare transformation had occurred. *Am J Obstet Gynecol* 2012;206:362.e1-3.
 10. Giannella L, Gelli MC, Mfuta K, Prandi S. A postconization hematometra revealed a rare case of endocervical bone metaplasia. *J Low Genit Tract Dis* 2014;18:E19-22.
 11. Elkattan E, Abdelbadei M, Abdelmoaty H, Ali E, Samir D, Kheidr H. Osseous metaplasia of the cervix: A rare transformation. *J Turk Ger Gynecol Assoc* 2015;16:58-9.
 12. Dorin G, Liliana V, Daniela C, Octavian M, Bianca QG, Cosmin C. Osseous metaplasia of the uterus. *TMJ* 2003;53:280-5.
 13. Haschek WM, Rousseaux CG, Wallig MA. *Fundamentals of Toxicologic Pathology: Second Edition.* Elsevier Inc.; 2009. p. 691. doi: 10.1016/C2009-0-02051-0.
 14. King TC, editor. *Elsevier's Integrated Pathology.* 1st ed. Philadelphia, PA, USA: Mosby Elsevier; 2007.
 15. Simionescu C, Mărgăritescu C, Georgescu CV, Mogoantă L, Marinescu AM. Pseudo-tumoral lesions of the cervix. *Rom J Morphol Embryol* 2005;46:239-47.
 16. Alsaqobi A, Al-Brahim N. Osseous metaplasia of the cervix: A rare transformation can mimic a tumor-literature review. *Case Rep Pathol* 2018;1-4.