

Osseous Metaplasia of the Vaginal Vault: A Case Report

Sajna V. M. Kutty¹ · K. P. Kavitha¹ · Nazer Thalamkandathil²

Received: 4 October 2016 / Accepted: 2 May 2017 / Published online: 11 May 2017
© Federation of Obstetric & Gynecological Societies of India 2017

About the Author

Sajna V. M. Kutty did her graduation and postgraduation in Pathology from Calicut Medical College, Calicut, Kerala. She is currently working as Junior Consultant Pathologist in Aster MIMS, Calicut, Kerala. Her areas of interest include neuropathology, gynecologic pathology and postgraduate teaching.



Keywords Osseous metaplasia · Vaginal vault

Introduction

We present a case of osseous metaplasia of the vaginal vault following total abdominal hysterectomy. Osseous metaplasia occurring in the endometrium and the cervix is described in the literature. The single case of vaginal osseous metaplasia available was reported 7 years prior to this case. The origin or circumstances leading to osseous metaplasia remain unclear with various theories like spontaneous differentiation of fibroblasts to osteoblasts, repair process secondary to chronic inflammation, tissue destruction owing to repeated abortions, proposed as explanations; yet none have been proved conclusively.

Sajna V. M. Kutty is a Junior Consultant, Department of Pathology, Aster MIMS, Calicut, Kerala, India. K. P. Kavitha is a Senior Consultant, Department of Pathology, Aster MIMS, Calicut, Kerala, India. Nazer Thalamkandathil is a Senior Consultant, Department of Obstetrics and Gynaecology, Aster MIMS, Calicut, Kerala, India.

✉ Sajna V. M. Kutty
sajnavmkutty@gmail.com

¹ Department of Pathology, Aster MIMS, Calicut, Kerala 673016, India

² Department of Obstetrics and Gynaecology, Aster MIMS, Calicut, Kerala 673016, India

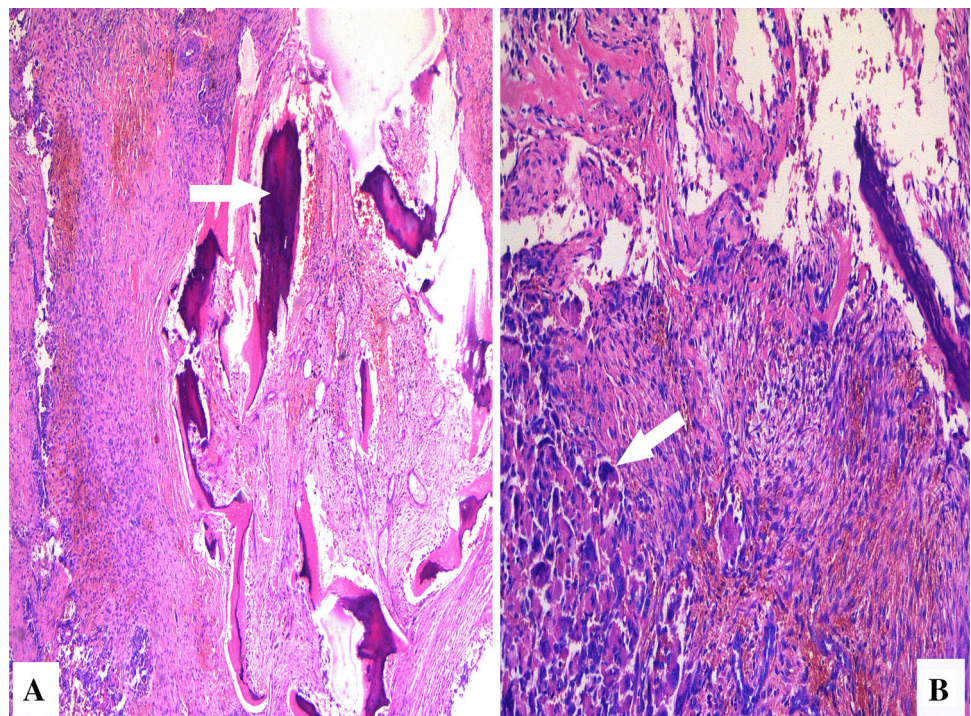
Case Report

A 39-year-old woman, who had undergone total abdominal hysterectomy and right salpingo-oophorectomy three years ago for uterine fibroid, presented at the Gynecology outpatient department with complaints of bleeding per vaginum of one-week duration. Patient was not febrile, and systemic examination was unremarkable. There was no past history of any other illness. Per vaginum, there was bleeding from the vaginal vault. A pap smear was taken, but no abnormality was detected on microscopic examination. MRI of the pelvis revealed a multiloculated, hyperintense cystic lesion of 2.5×2 cm in the vaginal vault with thick internal septations of possible inflammatory or neoplastic nature. Per-operatively, the lesion was seen to occupy the left side of the vault and it was removed in pieces. The left ovary was buried in dense adhesions between the posterior aspect of vault, the bowel and the anterior abdominal wall. Left ovariectomy was done after release of adhesions. Grossly the excised tissue had a yellowish white appearance. Microscopic examination revealed trabeculae of mature bone and fibrocollagenous tissue with foci of calcification. Dense collections of multinucleated foreign body giant cells admixed with lymphocytes, plasma cells and hemosiderin laden macrophages were present (Fig. 1). There were no features suggestive of malignancy. The left ovary was within normal limits.

Discussion

Osseous metaplasia is the development of mature osseous tissue instead of the normal mature tissue expected in a specific region due to differentiation of pluripotent cells. There are only a few reported cases of osseous metaplasias in the female genital tract, and they mainly involve the cervix and the endometrium. The etiopathogenesis remains unclear with several factors being implicated in this transformation including surgical trauma, chronic inflammation, pregnancy and abortion. Of note, retention of fetal parts should be excluded in cases presenting after an abortion. Presenting complaints in cervical osseous metaplasia are usually cervical mass, dyspareunia or bleeding [1]. Lesions in the cervix may become evident during physical examination. Most cases involving the endometrium present with infertility or menstrual irregularities [2]. Uterine lesions can usually be picked up on radiological investigation as hyperintense structures suggestive of calcification. Radiological differential diagnoses include intra-uterine devices, foreign bodies, Asherman's syndrome, calcified submucous fibroid and Mullerian tumor [3]. Concomitant lesions of the cervix and endometrium have also been reported [4]. Therefore, in lesions involving the cervix, examination of the uterine cavity is advised. Histopathological assessment was done in all these cases for confirmation. Care should be taken not to make an erroneous histopathological diagnosis of malignant mixed

Fig. 1 **a** Trabeculae of mature bone corresponding to the osseous metaplasia (*white arrow*) within fibrocollagenous tissue. **b** Dense collections of multinucleated foreign body giant cells (*white arrow*)



mullerian tumor based on the presence of bony tissue. This can be avoided by noting the lack of anaplasia in the stromal cells and absence of malignant epithelial component. The sole reported case of vaginal osseous metaplasia was published 7 years prior to our case. Their patient presented with pelvic pain and the bony tissue was identified on per vaginum examination. Our patient presented with bleeding per vaginum post-hysterectomy, and the final diagnosis was made after histopathological confirmation. In the differentials for osseous tissue in the vaginal vault, we considered the possibility of systemic illnesses such as hypervitaminosis and hypercalcemia which can cause abnormal bone formation. But the respective biochemical parameters were within normal limits in our patient. We presume that the surgical procedure of hysterectomy must have triggered the metaplastic transformation of stromal mesenchymal cells into osteoblasts in the vaginal vault.

Compliance with Ethical Standards

Conflict of interest Sajna V. M. Kutty, K. P. Kavitha and Nazer Thalamkandathil hereby declare they have no conflicts of interest.

Human and Animal Rights Sajna V. M. Kutty, K. P. Kavitha and Nazer Thalamkandathil hereby declare no research was done involving human participants and/or animals.

Informed Consent Sajna V. M. Kutty, K. P. Kavitha and Nazer Thalamkandathil hereby declare informed consent was obtained.

References

1. Elkattan E, Abdelbadei M, Abdelmoaty H, Ali E, Samir D, Kheidr H. Osseous metaplasia of the cervix: a rare transformation. *Turk Ger Gynecol Assoc.* 2015;16(1):58–9.
2. Madaan M, Suman S, Sharma R, Kapoor N, Garg P, Raj SS. Osseous metaplasia of the endometrium and successful hysteroscopic resection: a report of two cases and a review of the literature. *Asian J Endosc Surg.* 2015;8(1):63–6.
3. Guerra LF, Pessanha LB, de Oliveira GA, de Melo AM, Braga FS, de Souza RS. Endometrial osseous metaplasia: sonographic, radiological and histopathological findings. *Radiol Bras.* 2016;49(1):62–3.
4. 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(7):2434.e1–4.