

CASE REPORT

OSSEOUS METAPLASIA OF ENDOMETRIUM —A RARE CAUSE OF MENOMETRORRHAGIA

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Osseous metaplasia is a rare disorder of endometrium in which a bone is formed from a different tissue inside the same individual. It is not generally applicable to the persistence of embryonic or foetal bone resulting in calcification or ossification. Most common presentation of osseous metaplasia of bone is infertility usually secondary. A case of osseous metaplasia as a cause of menometrorrhagia as a rare entity is presented.

INTRODUCTION

Osseous metaplasia is a rare disorder of endometrium in which a bone is formed from a different tissue inside the same individual. It is not generally applicable to the persistence of embryonic or foetal bone resulting in calcification or ossification.¹ Sorinola *et al* described the presence of bone tissue in endometrium it was attributed to a spontaneous differentiation of fibroblasts to osteoblasts.² Thaler associated a casual effect of osseous metaplasia with previous abortion.³ It is a rarely encountered condition, with <100 cases described in literature and an estimated incidence of 3/10,000.⁴ It appears in women of reproductive age though it has been reported in menopausal women as well.⁵ A history of previous pregnancy is reported in >80% cases.⁶

There are several theories that explain the presence of this tissue. These can be summarised as metaplastic transformation of endometrial stromal cells and implantation of foetal tissue after abortion or instrumentation with foetal tissue persisting and growing as a homograft. Doubt arises whether osseous tissue is of foetal or maternal origin. Genetic analysis of sample can be compared with DNA of the patient to determine its origin.¹

CASE REPORT

A 41-year-old P₄₊₁ presented in Gynaecology OPD of AERO Hospital with complaint of irregular vaginal bleeding for the last 3 years. Her last pregnancy was a 14-week abortion about 5 years ago managed by dilatation and curettage. She was practicing no contraception since then. Her menstrual cycle initially was regular with heavy flow but for the last 2 years her cycles became irregular with very heavy bleeding *per vaginam*. She underwent diagnostic dilatation and curettage about 3 months ago. Histopathology report showed secretory phase endometrium with inflammatory cells. She was given Metronidazole 400 mg 3 times a day and Ofloxacin 200 mg twice daily, for 14 days. When the patient did not respond, she was put on Norethiesterone 5 mg 3 times a day for 21 days followed by 7 days off, for 2 months. She failed to respond to this treatment as well. She reported in OPD

with her problem. After examination and evaluation she was given option of complete surgical removal of uterus which was agreed as her family was complete. Her haemoglobin was 8.2 g/dl, blood sugar, urea, creatinine, HBsAg and HCV profile were normal. Her ultrasound pelvis revealed a linear echogenic image resembling an intrauterine contraceptive device but there was no history of any such device insertion. X-Ray pelvis was also inconclusive as it did not show any intrauterine contraceptive device or any other radio-opaque density.

Patient was built-up for hysterectomy. Her total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed. Cut section of uterus revealed many bone fragments in it and a 1×0.5×0.5 mm size osseous nodule embedded in endometrium. On histopathology, it was diagnosed to be Osseous metaplasia of endometrium.

DISCUSSION

Most common presentation of osseous metaplasia of bone is infertility usually secondary. Some women with retained foetal bones have symptoms of menometrorrhagia, dysmenorrhea, vaginal discharge, pelvic pain and spontaneous elimination of bony fragments in menses besides secondary infertility.

These have the same effect in uterus as that of intrauterine contraceptive device so it could cause infertility as well as menometrorrhagia. Osseous metaplasia causes sub-fertility and menstrual irregularities by changing the *milieu* of uterine cavity through the increased production of prostaglandins. Lewis *et al*⁹ measured menstrual blood volume and prostaglandin E₂ concentrations before and after removal of retained bones in women with infertility and menorrhagia. They found that the menstrual volume and total prostaglandin concentration decreased by 50% after the retained bones were removed. It is also possible that reactive endometritis caused by the bone fragments interferes with blastocyst implantation and thus cause sub fertility.^{9,10} The degree to which uterine cavity is involved is of particular clinical relevance.¹¹

More discrete forms occur more frequently. The intrauterine structures are not suspected clinically

because they remain asymptomatic. On ultrasound they usually appear like an intrauterine contraceptive device. In some cases these are visualised as filling defects on hystero-salpingography. Osseous lamellae which are white and either fan or disc shaped are reticulated, deeply embedded in mucosa and may have the appearance of flat coral.⁸

Over the past few decades there have been several case reports describing endometrial ossification. Optimum method of treatment is hysteroscopic removal of osseous material specifically for those patients who are yet to complete their family.¹²

CONCLUSION

Endometrial ossification is a rare finding which can be misdiagnosed and requires higher degree of suspicion to diagnose the condition properly.

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