

## **Retained Fetal Bones In-Utero Causing Secondary Infertility**

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**Calcification in the endometrial cavity is rarely encountered. Most cases presented with a secondary infertility. A possible explanation of infertility could be due to bone fragments acting as a foreign body initiating inflammatory process in the endometrium which makes it a hostile environment for the embryo to implant.**

**We are reporting a case of secondary infertility with hysteroscopic findings of bony fragments in the endometrial cavity. Hysteroscopic removal of the fragments was followed by a normal pregnancy.**

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Calcification in the endometrium is considered a rarity. In the past, it was usually discovered in the hysterectomy specimen or in the curettage. The introduction of high resolution ultrasound has provided the diagnosis of this condition prior to any invasive procedure.

Most of the reported cases were in women who had previous pregnancy<sup>1</sup>. The symptoms range from asymptomatic to menstrual disturbances and dysmenorrhea or dyspareunia. However, most of the cases presented with a secondary infertility. A possible explanation to infertility is that such bone fragments act as a foreign body creating an inflammatory process in the endometrium which makes it a hostile environment for the embryo to implant<sup>2,3</sup>.

The aim of this case presentation is to highlight secondary infertility caused by bony fragments in the endometrial cavity. Hysteroscopic removal of the fragments was followed by a normal pregnancy.

### **THE CASE**

A thirty-five year old female, P2A2 who complained of secondary infertility of two years duration and lower abdominal pain with recurrent vaginal discharge. Past obstetrical history revealed two full term pregnancies; one of her children is thalassemia major while the other is normal. She had a chorionic villous sampling at 12 weeks of gestation which was positive for thalassemia; therefore, therapeutic abortion was performed. Her menstrual cycles were always regular, every 28 days, with normal flow and 7 days duration. Physical

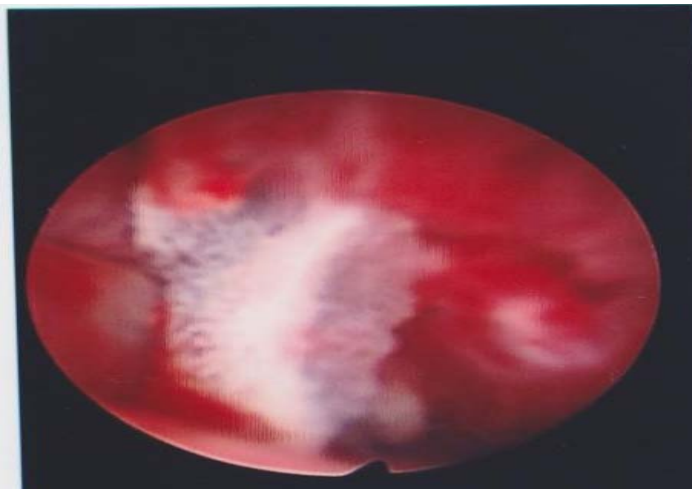
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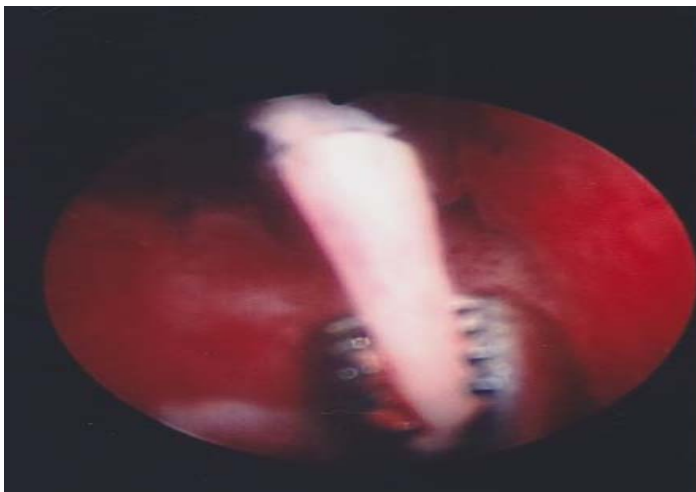
examination was unremarkable. Her early follicular phase FSH, LH, and Estradiol were within normal limits.

Prolactin level was normal. Transvaginal ultrasound examination revealed a calcified area within the endometrium. A subsequent saline ultrasonography confirmed the presence of a calcified object in the uterine cavity.

The patient was advised to undergo a hysteroscopy, see figure 1 and 2. The foreign body was easily removed with hysteroscopic loop without activating the electrocautery. Histopathological examination revealed fragments of mature bone, disordered proliferative endometrium with small foci of simple hyperplasia. She conceived five months after the procedure and delivered a healthy baby girl at term.



**Figure 1: Hysteroscopic View No.1**



**Figure 2: Hysteroscopic View No.2**

## **DISCUSSION**

Endometrial ossification is a rare condition and usually followed by infertility. It is important to recognize the implication of a hyperechoic shadow in the ultrasound pictures because many are thought as a normal variations. The presence of such condition might be the only cause of infertility and is effectively treated by hysteroscopic resection of the calcified part; usually it is followed with spontaneous pregnancy<sup>4</sup>.

The first published report on osseous metaplasia, in a surgical specimen of a hysterectomy, was in 1901<sup>5</sup>. More than 80% of patients diagnosed with osseous metaplasia have a history of spontaneous or induced abortion<sup>6</sup>.

To explain the presence of bony fragments in the endometrial cavity, few theories have been proposed: retention of fetal bones, implantation of embryonic parts before the existence of bone at early abortions, chronic endometrial inflammation such as endometritis or pyometra; and metabolic disorders, such as, hypercalcemia, hypervitaminosis D or hyperphosphatemia<sup>7</sup>. The implantation of osteogenic cells might develop into mature bone fragments.

Although, 80% of women who present with osseous metaplasia of the endometrium have a history of a pregnancy, the other 20% of women might had unrecognized early pregnancies and the osteogenic cells developed into mature bones and acted as a contraceptive device for those individuals. The symptoms of such condition depend upon the size of the bony fragments; menstrual disturbances, such as, dysmenorrhea and dyspareunia occur with larger size bony fragments while small fragments are asymptomatic and might only present as infertility<sup>8</sup>. The evaluation of such individuals must be done first with ultrasound as retained bony materials are not always visualized by hysterosalpingography but are usually apparent as hyper-echogenic structure on transvaginal sonography<sup>9</sup>. Hysteroscopic removal of bone fragment is the treatment of choice in these cases as it provides a complete resection of the bone fragments and reduces the magnitude of endometrial injury and intrauterine adhesion formation.

A controversy exists in the diagnosis of osseous metaplasia of the endometrium, whether the condition occurs spontaneously or not. In the case presented, the calcified tissue in utero is of fetal origin based on genetic studies<sup>10</sup>.

## CONCLUSION

**A case of secondary infertility with hysteroscopic findings of bony fragments in the endometrial cavity was presented. Hysteroscopic removal of the fragments was followed by a normal pregnancy.**

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## REFERENCES

1. Melius FA, Julian TM, Nagel TC. Prolonged Retention of Intrauterine Bones. *Obstet Gynecol* 1991; 78 (5 Pt 2): 919-21.
2. Marcus SF, Bhattacharya J, Williams G, et al. Endometrial Ossification: A Cause of Secondary Infertility. Report of Two Cases. *Am J Obstet Gynecol* 1994; 170 (5 Pt 1): 1381-3.

3. Dawood MY, Jarrett JC. Prolonged Intrauterine Retention of Fetal Bones after Abortion Causing Infertility. *Am J Obstet Gynecol* 1982; 143(6): 715-7.
4. Van den Bosch T, Dubin M, Cornelis A. Favourable Pregnancy Outcome in a Woman with Osseous Metaplasia of the Uterus. *Ultrasound Obstet Gynecol* 2000; 15: 445-7.
5. Lainas T, Zorzovilis I, Petsas G, et al. Osseous Metaplasia: Case Report and Review. [Fertil Steril](#) 2004; 82 (5):1433-5.
6. Melius F, Julian T, Nagel T. Prolonged Retention of Intrauterine Bones. *Obstet Gynecol* 1991; 8: 919-21.
7. Torné A, Jou P, Pagano R, et al. Endometrial Ossification Successfully Treated by Hysteroscopic Resection. *Euro J of Obstet & Gynecol and Reprod Biol* 1996; 66: 75-7.
8. Frydman R, Eibshitz I, Fernandez H, et al. Uterine Evaluation by Micro-Hysteroscopy in IVF Candidates. *Hum Reprod* 1987; 2: 481-5.
9. Graham O, Cheng LC, Parsons JH. The Ultrasound Diagnosis of Retained Fetal Bones in West African Patients Complaining of Infertility. *BJOG* 2000; 107(1): 122-4.
10. Tulandi T, Al-Sunaidi M, e Arseneau J, et al. Calcified Tissue of Fetal Origin in Utero *Fertil Steril* 2008; 89: 217.