

ENDOMETRIAL OSSEOUS METAPLASIA AS A RARE CAUSE OF SECONDARY INFERTILITY: A CASE REPORT OF SUCCESSFUL SPONTANEOUS CONCEPTION POST-HYSTEROSCOPIC MANAGEMENT

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ABSTRACT

Background: Endometrial osseous metaplasia is a rare condition characterized by the presence of bone tissue within the endometrium, often leading to secondary infertility. **Case Presentation:** We report the case of a 33-year-old woman with a history of multiple pregnancies and abortions, presenting with secondary infertility. Transvaginal ultrasound revealed linear calcifications within the endometrial canal. Histopathological examination confirmed the absence of viable villi or malignancy. Hysteroscopic removal of bone-like structures was performed. Subsequently, the patient conceived spontaneously and, as of March 26, 2025, is in her 22nd week of a healthy pregnancy. **Conclusion:** This case underscores the importance of considering endometrial osseous metaplasia in patients with secondary infertility and highlights the efficacy of hysteroscopic intervention in restoring fertility.

INTRODUCTION

Endometrial osseous metaplasia is an uncommon pathological condition wherein bone tissue forms within the endometrial cavity. First described in the 19th century, its incidence is estimated at approximately 0.3 per 1,000 women. The condition is often associated with secondary infertility, particularly in women with a history of abortion or uterine instrumentation. The pathogenesis remains debated, with theories suggesting metaplastic transformation of endometrial stromal cells or retention of fetal bone fragments post-abortion. Diagnosis is typically achieved through imaging and confirmed via hysteroscopy and histopathological analysis. Hysteroscopic removal of the osseous tissue is considered the treatment of choice, often resulting in the restoration of fertility.

CASE PRESENTATION**Patient Information**

- Age: 33 years
- Marital Status: Married for 15 years
- Gravida: 5
- Para: 2
- Abortions: 3
- Living Children: 2

Obstetric History

- First Pregnancy: At age 19, lower segment cesarean section (LSCS) performed due to oligohydramnios.
- Second Pregnancy: 12 years prior, medical termination using MTP pills.

- Third Pregnancy: Delivered via LSCS 10 years ago.
- Subsequent Abortions: Two medical terminations (D&C) performed one year and six months prior, respectively.

Medical and Surgical History

- Past Surgeries:
 - LSCS 14 years ago
 - Right-sided inguinal hernioplasty
 - Classical LSCS 10 years ago complicated by peritonitis; mesh removal for right-sided hernia.
- No history of: Diabetes mellitus, hypertension, pulmonary tuberculosis, epilepsy, or thyroid disorders.
- Family History: Non-contributory.

Menstrual History

- Recent: Regular cycles every 28–30 days, lasting 1–2 days, using 1–2 pads/day.
- Previous: Cycles every 28–30 days, lasting 3–4 days, using 3–4 pads/day.

Clinical Findings

- Vital Signs: BP: 130/80 mmHg
- General Examination: No abnormalities detected.
- Per Abdominal Examination: Soft, non-tender abdomen.

Diagnostic Assessment

- Ultrasound (February 24, 2024): Linear calcifications observed in the endometrial canal, suggestive of endometrial osseous metaplasia.
- Endometrial Biopsy (March 4, 2024): No evidence of viable villi or malignancy.

Therapeutic Intervention

- Procedure (June 5, 2024): Hysteroscopic removal of bone-like structures under general anesthesia.

Follow-Up and Outcomes

- Conception: Spontaneous conception with last menstrual period on October 17, 2024.
- Current Status (as of March 26, 2025): Approximately 22 weeks into a healthy pregnancy.

DISCUSSION

Endometrial osseous metaplasia is a rare but significant cause of secondary infertility. The condition often presents with nonspecific symptoms, making diagnosis challenging. In this case, the patient's history of multiple abortions and uterine procedures likely contributed to the development of osseous metaplasia. Transvaginal ultrasound served as a crucial diagnostic tool, revealing characteristic calcifications. Hysteroscopic removal of the osseous tissue led to the restoration of normal endometrial function, culminating in a spontaneous and healthy pregnancy. This aligns with existing literature, which emphasizes the efficacy of hysteroscopic intervention in such cases.

CONCLUSION

This case highlights the importance of considering endometrial osseous metaplasia in patients with unexplained secondary infertility, especially those with a history of uterine interventions. Prompt diagnosis through imaging and confirmation via hysteroscopy, followed by surgical removal, can effectively restore fertility.

Patient Perspective

The patient expressed immense satisfaction with the care received and was overjoyed upon achieving a spontaneous pregnancy after years of infertility.

Informed Consent

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

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