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Hysteroscopic Retrieval of Numerous Retained Fetal Bones Six Years Post Mid Trimester Abortion in a Patient with Secondary Infertility and Severe Dysmenorrhoea: A Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

This case report highlights the significance of prolonged retention of multiple fetal bones six years following termination of pregnancy. Prolonged retention of fetal bone or bone fragments is an established cause of secondary infertility from recurrent endometritis and subsequent Asherman's

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syndrome or bilateral tubal blockage. It is usually encountered following unsafe abortion in second trimester (mid trimester abortions). Transvaginal sonography is the initial screening imaging modality for evaluating the uterus of women in gynaecological outpatient clinic while a diagnostic or operative hysteroscopy is the gold standard in treating a woman with retained fetal bone.
We present a 33-year-old nullipara with a six-year history of severe dysmenorrhea following termination of pregnancy. On further evaluation she was found to have numerous retained fetal bone particles in her endometrial cavity which were retrieved via the use of hysteroscopy. She did well clinically and currently have painless menstruation.

Keywords: Chronic pelvic pain; hysteroscopy; mid trimester abortion; retained fetal bone; secondary infertility.

1. INTRODUCTION

Prolonged intrauterine retention of fetal bone fragments or skeleton after an intrauterine fetal death, missed, spontaneous, incomplete or therapeutic abortion is rare and likely to be under reported [1, 2, 3].

The most common theory of uterine ossifications is the retention of fetal bones following either of spontaneous, missed, incomplete or criminal abortions at a time when endochondral ossification should have occurred at 12 weeks gestation or more [3, 4]. Another plausible explanation is the metaplasia of endometrial stromal cells into cartilaginous and bony tissue in the absence of an antecedent pregnancy has been postulated to occur as a response to chronic endometritis, trauma, vitamin deficiency or prolonged oestrogen stimulation [4, 5]. However, most cases endometrial ossifications are believed to be retained bone fragments following termination of pregnancy. Retained fetal bone can cause endometritis and subsequent blockage of the Fallopian tubes which has been implicated as one of the commonest causes of infertility in developing countries [6].

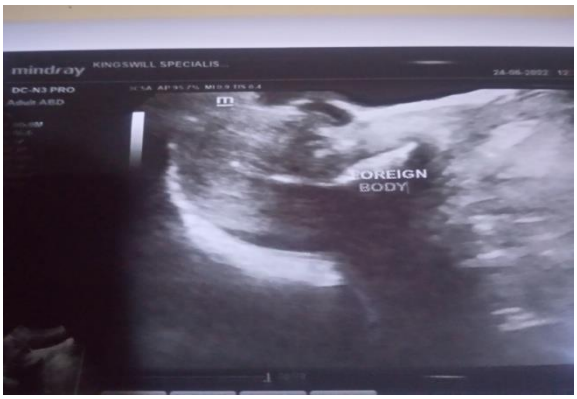
Transvaginal ultrasound scan is a very important and initial imaging technique employed in the evaluation of uterus in women with suspected retained fetal bone [2]. Although in selected cases hysteroscopic can also be used.

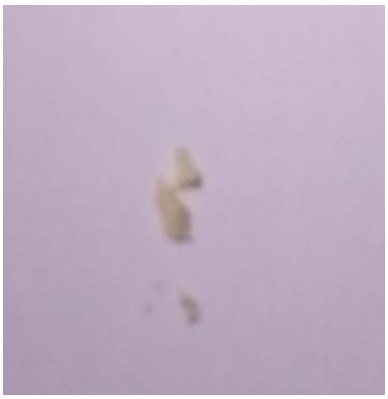
Treatment of retained fetal bones fragment depends on so many factors (acute or chronic presentation, symptomatic or asymptomatic, size, location, quantity, extent of scaring and inflammation). It can be medical, or surgical (dilation and curettage or hysteroscopy). Hysteroscopy was utilized in our patient because of the chronicity and multiple number of fetal bones [2, 3]. It is therefore important to emphasize the need for proper evaluation of any woman presenting with severe dysmenorrhea or infertility with previous history of mid trimester abortion.

2. CASE REPORT

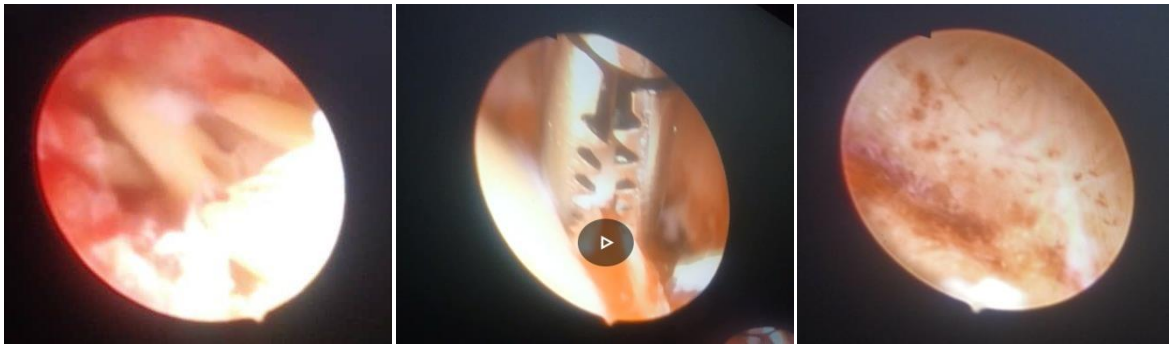
Patient was a 33-year-old nulliparous lady who presented with severe secondary dysmenorrhoea and inability to conceive with a background history of termination of pregnancy using manual vacuum aspiration in a nursing home at 16 weeks gestation.

About two months after the pregnancy termination, she gave a history of having passed a suspected bony spike per vagina, and another suspected bone spike also two years after. Each of these bony fragments were shown to the nurse who performed the procedure and other health care workers, but her claims were dismissed. She kept the bony fragments with her until she presented to our facility six years after the uterine evacuation. She is now married and have been unable to conceive and having associated very painful menstruation. A transvaginal ultrasound scan revealed a normal sized uterus with a normal fundal endometrium; however, the lower two-third of the endometrial cavity contained a bright echogenicity consistent with foreign body in the absence of history of an intra-uterine contraceptive device insertion. She had hysteroscopy under paracervical block with removal of numerous fetal bone pieces of over 40 pieces ranging between 2mm to 2cm in length occupying the lower uterine segment initially obstructing visualization of the mid and fundal uterine cavity until completely removed using graspers leaving a clear uterine cavity with visualization of both tubal ostia.

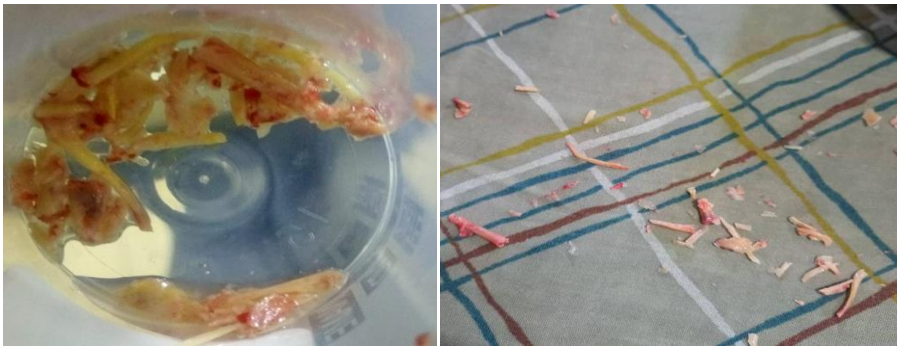




Figs. 1 & 2. Pelvic ulstrasound scan showing echogenicity in lower uterine segment with normal upper endometrial cavity and fetal bones passed per vagina seen at presentation respectively



Figs. 3, 4 & 5. Fetal bones seen at hysteroscopy, hysteroscopic grasper retrieving fetal bone and clear fundal endometrium visualized after complete removal of fetal bones respectively. *Courtesy- Dr Nwogu*



Figs. 6 & 7. Fetal bones after removal from the uterine cavity on a specimen bottle and instrument tray respectively. *Courtesy- Dr Nwogu*

3. DISCUSSION

This case emphasizes the complications that may arise following second trimester termination of pregnancy. Besides the high risk of bleeding, uterine perforation, and injury to surrounding organs that may occur post second trimester pregnancy termination, it can also lead to retention of fetal bones which could lead to infertility as in the case presented. Infertility may occur by one of or the combination of intrauterine synechia, endometritis, and bilateral tubal blockade from ascending infection [1, 2, 6, 7, 8].

It can be asymptomatic, but in majority of cases, the common symptoms include menorrhagia,

menometrorrhagia, chronic pelvic pain, severe dysmenorrhoea and secondary infertility. The index case had secondary infertility and severe dysmenorrhoea.

Traditionally, the diagnosis usually is suspected from filling defects on hysterosalpingography, [6] with the definitive diagnosis made by the identification of fetal bones on blind curetting's [3] and treatment by either curettage or hysterectomy [3].

In contemporary gynaecology and with the advent of transvaginal sonography, office hysteroscopy, or saline infusion Sono hysterography (SIS), the diagnosis and treatment and outcomes seem to have improved significantly [3].

Diagnostic hysteroscopy followed by an operative procedure using a grasper, forceps or loop resectoscope allows for diagnosis by direct visualization and removal of bony fragments [3].

Hysteroscopy is very valuable in ensuring complete removal [1, 2, 3]. It may sometimes require more than one session of hysteroscopy to ensure complete removal [2,3].

There have been documented cases with difficult removal with hysteroscopy resulting in completion with curettage [3]. This difficulty may be encountered more with the use of grasper and forceps during hysteroscopy [3]. The use of a loop wire resectoscope in an experienced hand allows for ease of removal of partially or completely embedded bone fragments with ease [3].

Hysteroscopic removal with laparoscopic or ultrasound monitoring especially where intra-myometrial embedment is suspected is a preferred treatment option and allows for early return of fertility [3].

Successful pregnancies have occurred after removal of retained fetal bones in the absence of other known causes of their secondary infertility treated. However, this depends on the extent of damage and present or absent of other causes of infertility [3].

Just as important, it is also necessary to broaden your suspicion of other possible causes of bilateral Fallopian tubal blockage in developing countries while evaluating a woman with chronic pelvic pain. These causes could be from ascending infection from poorly treated pelvic inflammatory disease, endometritis from retained fetal bone as in the index case, female genital tuberculosis, endometriosis and other pelvic pathologies [6, 9, 10].

4. CONCLUSION

Prolonged intrauterine retention of fetal fragments is now a recognized complication of intrauterine fetal death, missed abortion, spontaneous, incomplete and induced abortions which can result in secondary infertility or chronic pelvic pain.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

CONSENT

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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