

## **Case Report**

### **Diverse Presentation of Retained Intrauterine Bones: Case and Literature Review**

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#### **Abstract:**

Abortions are considered a safe procedure. Nevertheless, it may have many unwanted complications. The complications are mostly short term and resolve on their own. Some complications take months or even years to manifest. They may hamper the quality of life of the woman, depending upon the symptoms and signs. One such complication is retained intrauterine fetal bones. It is an uncommon complication but can produce a spectrum of complications which may be minor like discharge per vaginam or major such as secondary infertility or abnormal uterine bleeding. We are presenting two cases each having the same post abortal complication of retained intrauterine fetal bones but with different clinical presentations.

**Keywords:** Intrauterine, fetal bones, vaginal discharge, infertility

*International Journal of Human and Health Sciences Vol. 05 No. 04 October'21 Page : 510-513  
DOI: <http://dx.doi.org/10.31344/ijhhs.v5i4.365>*

#### **Introduction**

Approximately 15.6 million abortions occur annually in India and there has been increase in the number of abortions over the past few decades, both induced and spontaneous<sup>1</sup>. Most of the abortions require some medical interventions like dilatation and evacuation or curettage. Despite of all precautions, these interventions are associated with some complications. The complications range from short term ones like pain, bleeding and discharge per vaginam to long term like retained intrauterine fetal bones, secondary infertility and abnormal uterine bleeding. Retained intrauterine fetal bones is a rare complication, diagnosed incidentally in 0.15% of women undergoing diagnostic hysteroscopy<sup>2</sup>. However, in abortions occurring over 12 weeks of

gestation, endochondral ossification is completed and the incidence may be higher. Such cases may present with secondary infertility, discharge per vagina, dysmenorrhea, abnormal uterine bleeding, dyspareunia. The retained bones can lead to secondary infertility by various mechanisms and a high clinical suspicion should be present in any woman coming with secondary infertility and with a previous history of abortion. Here we report two varied presentations of retained intrauterine fetal bones.

#### **Case report 1**

A 34 years old woman, with a history of one previous abortion, presented with the inability to conceive since 15 years and history of dysmenorrhea since 1 year. There was a history of spontaneous abortion 16 years ago. That pregnancy was confirmed by

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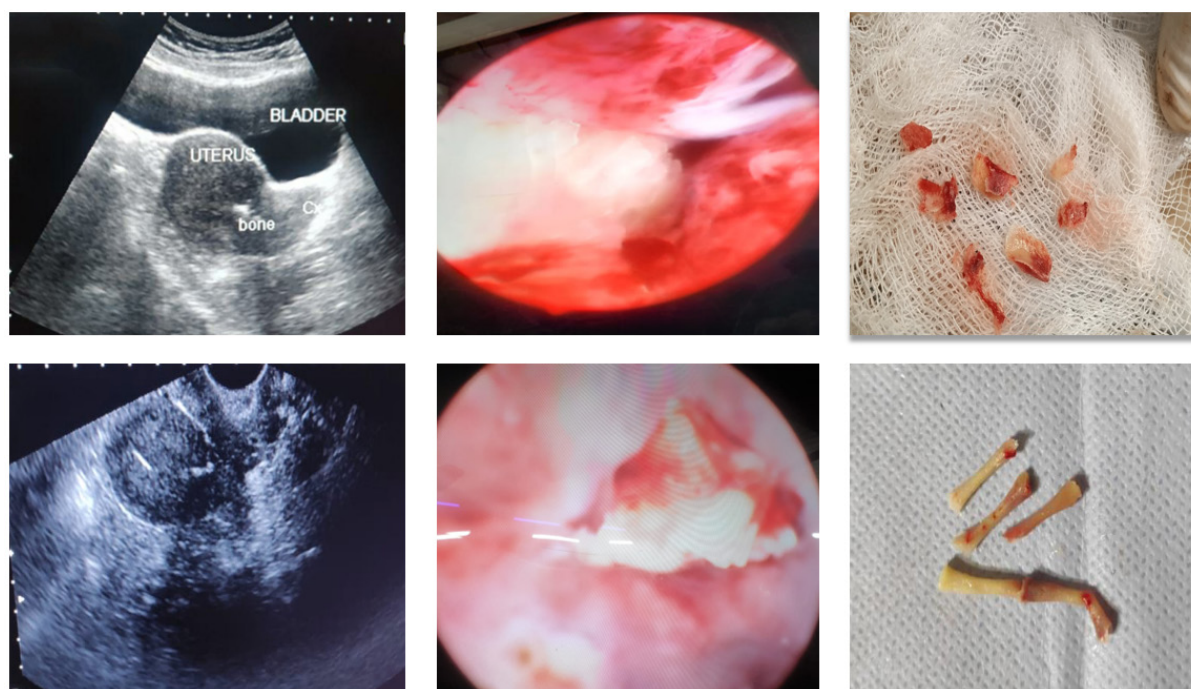
urine pregnancy test and antenatal ultrasound but bleeding started at four months of gestational age which was later managed by dilation and curettage. At that time patient did not get an ultrasound done post procedure as it was uneventful. The patient had been asymptomatic since then and resumed her menstruation soon after. However, she was unable to conceive again. The uterus was 6 weeks in size at presentation and cervix was found to be irregular in consistency. All the relevant laboratory investigations for evaluation of secondary infertility were done and were within normal limits. The pelvic ultrasound however showed two well defined hyperechoic lesion seen in anterior and posterior myometrium. Few linear calcific foci were seen in endometrial cavity with the largest of size 20 mm [Figure 1-top left]. The ovaries were normal. The woman was admitted and planned for hysteroscopic examination under anesthesia. Multiple calcified areas were visualized in right lateral, anterior and posterior endometrial wall [Figure 1-top middle]. They had a gritty bony sensation on curettage and were subsequently

extracted under vision. The specimen resembled flat skull bones of the abortus, possibly left during the previous dilation and curettage procedure [Figure 1-top right]. The postoperative period was uneventful. Confirmation of fetal bones was done by histological examination. Currently, the woman is being followed up .

### **Case report 2**

A 27 years old woman with one living issue and history of a previous abortion, attended our outpatient department with complain of white discharge per vaginum since 1 year which had increased since 3 months. The discharge was odourless and not associated with fever or itching in perineal area. The woman was married for 7 years. She had history of caesarean section done 6 years back. The woman had a spontaneous abortion 1 year back. She started bleeding per vaginum at three and half month of gestational age, which later required dilation and curettage. She developed vaginal discharge after few weeks of the dilation and curettage. On per speculum examination, white non foul-smelling discharge

***Figure 1:***



***Figure legends-***

Top left: Ultrasonography of pelvis showing hyperechoic area in the endometrial cavity resembling fetal bones.

Top middle: Hysteroscopic view of retained fetal bones in endometrial wall

Top right : Extracted fetal bones after hysteroscopy procedure

Bottom left : Linear hyperechoic shadows visualized in endometrial cavity on pelvic ultrasound

Bottom middle: Hysteroscopic view of retained fetal bones in endometrial cavity

Bottom right: Extracted long fetal bones after hysteroscopy

from cervix was seen. No pelvic tenderness was noted. An ultrasound was done which showed retained production of conception in the endometrial cavity. A repeat dilation and curettage was done. However, the symptoms were not alleviated. Further investigations were done which included serum beta HCG (human chorionic gonadotropin) and subsequent transvaginal ultrasound. Serum level of beta HCG was within normal limit. Transvaginal ultrasound revealed an anteverted uterus of normal size. It showed multiple hyperechoic foci with posterior acoustic shadow, the largest hyperechoic area being 16 mm. The endometrial thickness was 9mm [Figure 1- bottom left]. There was suspicion of retained intrauterine fetal bones and was a diagnostic hysteroscopy was performed. The hysteroscopic examination revealed multiple white, hard structures simulating fetal bones in endocervical canal and uterine cavity [Figure 1-bottom middle]. They were removed under direct vision and resembled long bones of the fetus [Figure 1-bottom right]. The patient was relieved of the symptoms within few weeks of the procedure. A postoperative ultrasound showed normal endometrial cavity.

### **Discussion**

Retained intrauterine fetal bones, though a rare complication of abortion, can lead to wide spectrum of complications. The most important complication being secondary infertility. Only 0.15% of woman undergoing diagnostic hysteroscopy shows presence of intrauterine fetal bones in the post abortal period<sup>2</sup>. However, in women being investigated for secondary infertility, hysteroscopic removal of fetal bones has been seen in 11.9%<sup>3</sup>. The cause of infertility in the cases of retained intrauterine fetal bones is attributable to the following mechanisms: mechanical effect - prevention of implantation by obliteration of the uterine cavity, intrauterine bone fragments produce chronic inflammatory state in endometrial cavity and prevent implantation, similar to Intrauterine contraceptive devices, embryotoxicity by direct toxicity of osseous particles on the embryo, spermicidal effect-by direct toxicity and increased prostaglandin secretion<sup>4-7</sup>. The retained bony fragments may be embedded either superficially or deep in myometrium. The degree of complications is directly related to the extent fetal bones have embedded in the myometrium and the degree of endometrial ossification it has caused. It has been hypothesized that as time progresses, the bones

produce myometrial contractions that leads to further embedding of the bones and difficulty in spontaneous expulsion. Subsequently, there is increased chance of secondary infertility of severe degree<sup>8</sup>.

A high clinical suspicion should be kept in all the cases of secondary infertility. A meticulous history to elicit previous details of abortion and presence of local symptoms like dysmenorrhea and discharge per vagina should be taken along with a careful clinical examination. A systemic approach to rule out other causes proves beneficial in simultaneous treatment of the conditions and planning future management plan for the couple. Radiological imaging techniques offers simple, non-invasive method which can be used as the first step in suspected cases of retained bones. A transvaginal ultrasound is considered as the most suitable technique for diagnosis of endometrial ossification.<sup>9</sup> The diagnosis is made by characteristic appearance of single or multiple hyperechogenic bands with acoustic shadowing. The diagnosis can be further confirmed by use of hysterosalpingography which shows filling defects. However it fails to detect approximately 40% of deeply embedded bony fragments<sup>10-11</sup>.

Hysteroscopy is considered to be the gold standard method which helps in both diagnosis and therapeutic interventions if required. Hysteroscopic guided removal of bony fragments is the recommended treatment. It allows removal of the fragments directly under vision and physiological regeneration of normal endometrium suitable for implantation. In low resource settings, the facility of hysteroscopy may not be available and even a blind dilatation and evacuation of the uterus, may be tried<sup>12</sup>. The complications of the procedure are rare and include uterine perforation, hemorrhage and infection. Some authors have suggested high rates of success of hysteroscopic procedures following medical management with gonadotropin releasing hormones analogues (GnRHa). The rationale behind use of GnRHa is to produce endometrial atrophy so that bony fragments can be extracted easily. All the above treatments must be validated by an ultrasound to confirm the complete removal of the bony pieces. In absence of other causes of infertility, spontaneous conception has been reported at high rates. In a series of 11 such cases of retained intrauterine fetal bones, all the women, except 1 with bilateral tubal occlusion, conceived and pregnancy continued

till full term after the removal of the bones<sup>13</sup>. In light of the above mentioned discussion it may be suggested that the case selection for medical versus surgical management of abortion should be appropriate and wherever possible medical management should be preferred over surgical evacuation in order to avoid this type of remote complications especially in cases of second trimester abortions. For medicolegal concerns in abortion cases, one may even include in the consent form the risk of retained intrauterine fetal bones as one of the unforeseen complications.

### **Conclusion**

Secondary infertility and discharge per vaginum are common complaints which brings a woman to the obstetrician. Retained fetal bones being a rare complication of previous abortion is often overlooked. A detailed history, aided with non-

invasive transvaginal ultrasound can lead us to this diagnosis. Hysteroscopy is an excellent modality both for confirmation of the diagnosis and treatment. The condition is completely curable by hysteroscopic guided extraction of the retained bony fragments. The prognosis after treatment is good in terms of spontaneous conception (in cases of secondary infertility) and alleviation of symptoms (in other cases).

**Source of fund:** None

**Conflict of interest:** The authors declare no conflict of interest.

**Author contributions:** We acknowledge that all authors have contributed significantly, and that all authors agree with the content of the manuscript.

**Declarations:** We declare that this manuscript has not been published nor submitted for publication elsewhere.

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