



A RARE CASE REPORT ON RETAINED INTRA-UTERINE FETAL BONE AFTER SURGICAL TERMINATION OF A SECOND TRIMESTER PREGNANCY

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ABSTRACT

Introduction: Retained intra-uterine fetal bone is a known complication following surgical termination of a second trimester pregnancy. It is most commonly detected on investigation for acute pelvic pain or secondary infertility and can manifest up to 15 years after surgery. We describe a presentation of acute pelvic pain 3 months after surgical abortion of second trimester pregnancy. **Case Report:** A healthy nulliparous 24-year-old female with history of second trimester abortion 3 months back, presented with acute pelvic pain. She had no past medical history or gynecological infection. Trans-vaginal ultrasound revealed a single linear echogenic endometrial focus. A diagnosis of retained intra-uterine fetal bone was confirmed after hysteroscopic removal. **Conclusion:** Intra-uterine fetal bone should be considered in all females with echogenic intra-uterine material on trans-vaginal ultrasound following surgical abortion regardless of the interval between termination and symptom onset. It is a readily treatable cause with either hysteroscopic removal or dilatation and curettage with trans-abdominal ultrasound guidance. Safer second trimester MTP practices should be followed with proper follow up.

KEYWORDS : Intrauterine retention of fetal bone, Medical termination of pregnancy (MTP) Curettage, Dilatation, Hysteroscopy, Pelvic pain.

INTRODUCTION

Retained intra-uterine fetal bone is a rare complication of surgical termination of a second trimester pregnancy with dilatation and evacuation (D&E) [1]. The reported incidence of retained fetal bone is 0.15% among diagnostic hysteroscopies [2]. Although endochondral ossification commences at 12 weeks gestation, osseous metaplasia of the endometrium in response to tissue destruction and inflammation associated with D&E is a leading hypothesis [3, 4]. Chronic endometritis secondary to retained products of conception or D&E is another suggested metaplastic trigger [5]. These patients may present with pelvic pain, dysmenorrhea, abnormal uterine bleeding and infertility [6]. Retained fetal bone may cause pelvic pain in rare case regardless of time interval after second trimester termination of pregnancy (MTP). Such patients should primarily be evaluated by detailed history, examination and pelvic ultrasound (USG). Fetal bone is easily identified as an intensely echogenic endometrial focus on trans-vaginal ultrasound. It can however be difficult to differentiate from an intra-uterine foreign body by its sonographic appearance alone. Direct hysteroscopic visualization and removal is subsequently considered the gold standard treatment. D&E using trans-abdominal sonographic guidance is an emerging therapeutic modality [7]. We present the case of retained intra-uterine fetal bone in a 24-year-old nulliparous female, 3 months after surgical termination of a second trimester pregnancy leading to acute pelvic pain.

CASE REPORT

A 24-year old nulliparous woman was admitted to our Department of Obstetrics and Gynaecology, B.J.M.C. Medical College, Ahmedabad, with complaints of lower abdominal pain for 2 weeks. She had no history of discharge PV, no urinary complaints, no dyspareunia, no history of previous pelvic inflammatory disease (PID) or intra-uterine contraceptive device (IUCD) insertion, no abnormalities of bowel movements. Her menstrual history was regular and her last menstrual period was 2 weeks back. She had a history of second trimester abortion by dilatation and evacuation at a private nursing home three months back. The termination procedure was uncomplicated and the patient's menses returned post-operatively.

She had never been evaluated after MTP. At the time of

presentation to our department, she was complaining of pain in lower abdomen. On general examination vitals were normal. She was mild anaemic, hemoglobin was 9 gm%. On per abdominal examination, mild supra-pubic abdominal tenderness was noted. On pelvic examination, uterus was normal in size, retroverted, firm mobile, bilateral fornices were free. Trans-vaginal ultrasound demonstrated a single echogenic endometrial focus within the superior left uterine fundus demonstrating faint acoustic shadowing. The appearance was considered atypical for retained products of conception and the possibility of an intra-uterine foreign body was raised.

After detailed investigation, she was prepared for hysteroscopic removal. Hysteroscopy revealed a single abnormal tissue fragment at the fundus of uterus. The fragment was removed and histopathological analysis revealed necrotic fetal bone. The patient was discharged in a stable condition two days after the procedure with proper counselling and advice for contraception and regular follow-up. During follow-up at three months the patient was asymptomatic and had regular menses.

DISCUSSION

Intra-uterine retention of fetal bone is a rare but recognized complication of surgical termination or miscarriage of a second trimester pregnancy. Cases have been reported between eight weeks to 15 years after abortion [1]. The presentation of retained fetal bone is varied. Most females are asymptomatic and detection is made during investigation for secondary infertility. Acute complaints include pelvic pain, dysmenorrhea, PID, dyspareunia and spontaneous expulsion of bone fragments in the menses [8].

Verma et al reported the case of a 20 year old woman with history of multiple terminations of pregnancy leading to chronic pelvic pain which got relieved after hysteroscopic removal of the intrauterine fetal bone [9].

Gupta N et al reported a case of 35-year-old woman with history of lower abdominal pain and amenorrhea for 2 months following a surgical second trimester abortion [6]. Ultrasound detected bright intrauterine echoes suggestive of retained fetal skull and bones in the uterine cavity. On hysteroscopy, a number of bones including skull bones were found adherent to

the right and left uterine walls above the isthmus. Bones were removed with difficulty from the uterus by dilatation and curettage. The largest piece was 2 × 0.5 cm.

Srofenyoh EK et al reported a case of chronic pelvic pain, dysmenorrhea after 16 weeks MTP, pelvic ultrasound suggested 3 highly echogenic substances in the uterine cavity [10]. These 3 pieces of small bones, each about 2 cm long, were retrieved from the uterine cavity by dilatation and evacuation.

Endochondral ossification commences at 12 weeks gestation. Most reported cases subsequently involve females who have had a pregnancy terminated between 10 and 26 weeks gestation. Apart from retained intrauterine bones after second trimester D&E, an alternative hypothesis relates to osseous metaplasia of the endometrium and endocervix. Metaplasia of mature endometrial stromal cells into osteoblasts is proposed to occur in response to tissue destruction or acute inflammation associated with curettage [3, 4]. It has been postulated that the endometrial stroma is capable of cartilaginous metaplasia [11]. Another hypothesis is that heteroplasia may occur in the multipotential stroma cells present in the uterus thereby forming osseous tissue [12]. Another suggested metaplastic trigger is post-abortive chronic endometritis [5]. This phenomenon is suspected to occur following first trimester abortion before fetal endochondral ossification.

Trans-vaginal ultrasound has superseded hysterosal pingogram in the diagnosis of retained fetal bone. Endometrial bone has an intensely echogenic sonographic appearance causing posterior acoustic shadowing. Differential diagnoses include calcified submucous fibroids, mixed müllerian mesenchymal tumour, endometrial tuberculosis and IUCD [13]. Cases of retained fetal bone have been described up to 15 years after termination [1]. It should therefore be considered in all females with echogenic intra-uterine material on trans-vaginal ultrasound after surgical abortion regardless of the time interval between surgery and symptom onset. Some centers perform routine follow-up ultrasound after pregnancies surgically terminated after 12 weeks to exclude retained bone and confirm completion of the procedure [14].

Hysteroscopy has both diagnostic and therapeutic values. Hysteroscopy is considered the gold standard treatment since it enables a complete removal of the bones under direct vision and leads to complete symptom resolution. Improved conception rates have also been widely reported in cases of secondary infertility treated with hysteroscopic removal [15, 16]. Another management strategy is D&E performed under intra-operative abdominal ultrasound guidance [7]. This is suggested to improve localization and ensure removal of all bone fragments in a single surgery. Blind D&E has historically been considered too diagnostically inaccurate and carries risk of uterine perforation in cases of severe associated chronic endometritis [7, 14]. Vigorous curettage can also lead to synechiae formation [13].

Mid trimester abortion may be accomplished by variety of techniques, alone or in combination. In these days when safe, effective and cheap prostaglandins are available for termination of mid trimester pregnancies [17] and also for the management of missed abortions, there is no justification any longer for dangerous procedures like mid trimester D&E. D&E for mid trimester abortion can lead to variety of complications, mainly due to incomplete evacuation of uterine contents. Even when D&E is used under certain conditions, pelvic USG especially using vaginal probe must be done to confirm uterine emptiness.

CONCLUSION

Intrauterine retention of fetal bones may cause pelvic pain after second trimester MTP. Possibility of retained RPOC's should be considered in cases especially with pelvic pain, regardless of time interval after MTP, otherwise it can lead to PID which may cause infertility. MTP must be performed by trained personnel at Institutional level with follow-up and family planning counselling.

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