A Case of Secondary Infertility Due to Retention of Fetal Bones in Cervix

Serdar ÖZER, Alev ÖZER, Mine KANAT-PEKTAŞ, Gülnur ÖZAKŞİT

Ankara, Turkey

A case of secondary infertility related with prolonged retention of fetal bones in cervix is presented.

A 34-year-old nulliparous woman admitted to hospital with chronic pelvic pain, dyspareunia and 12-year-long secondary infertility following an induced abortion due to fetal demise. Transvaginal ultrasonography (USG) revealed a linear echogenic area around the posterior cervical wall. Hysteroscopic examination confirmed the existence of an irregular calcified mass embedded in cervix. The mass turned out to be conglomerated fetal bone fragments which probably acted as an intrauterine device. After removal of the cervical mass, the patient conceived spontaneously within four months.

The present case report emphasizes the significance of detailed history and through evaluation by transvaginal USG in case of secondary infertility following an induced or spontaneous abortion.

Key Words: Fetal bones, Hysteroscopy, Infertility, Retention, Ultrasonography

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Introduction

Every year many spontaneous and induced abortions occur. Large scale studies show that abortions are safe procedures with a significantly low lethal risk. The complication rates related to bleeding, cervical injury, uterine penetration or adhesions change between 0.01% and 1.16%. However no definite conclusions can be made about the long-term effects of spontaneous and induced abortions.[1] Retention of fetal bone fragments in the uterus after the spontaneous or elective termination of a pregnancy is a rare cause of secondary infertility. Such a situation is usually associated with persistent irregular uterine bleeding, pelvic pain, dysmenorrhoea, vaginal discharge and spontaneous passage of fetal bones through menstrual blood flow.[2] A case of secondary infertility related with prolonged retention of fetal bones in cervix is presented here.

Case Report

A 34-year-old woman, gravida one, para null, aborta one, was referred to the outpatient clinic of infertility department due to chronic pelvic pain, dyspareunia and 12-year-long secondary infertility. She revealed that she had been married for 13 years and that she had a 22-week-old pregnancy terminated due to fetal demise 12 years ago. Her menstrual periods had been normal before and after the termination of the aforementioned pregnancy. There was nothing particular in her medical and family history.

Her general physical examination was evaluated to be normal. Although uterus and bilateral adnexa were examined as normal, a rigid cervix was noted during pelvic examination. The mean levels of follicle stimulating hormone, luteinizing hormone, estradiol, prolactin and thyroid stimulating hormone levels in serum were found to be within normal range. The semen of her husband was evaluated to be normospermic.

Transvaginal ultrasonography (USG) showed a linear echogenic area around the posterior cervical wall which was defined as a calcified leiomyoma by the radiologist (Figure 1). Bilateral tubal patency was demonstrated by hysterosalpingography (HSG) which also showed that uterine cavity was normal. A diagnostic hysteroscopic examination was planned to investigate the calcified lesion around the posterior cervical wall. Hysteroscopy revealed an irregular solid mass embedded in cervix which was excised by loop cautery. The solid mass was suspected of conglomerated fetal bone fragments.

Histopathological analysis reported mature osseous tissue and bone marrow remnants consistent with fetal bones at about 20th week of gestation (Figure 2). After hysteroscopy, pelvic pain and dyspareunia of the woman resolved progressively and control transvaginal USG showed normal uterus and cervix. Four months later she conceived spontaneously which resulted in delivery of a female newborn with a birth weight of 3150 grams.

Department of Infertility, Dr. Zekai Tahir Burak Women Health Research and Education Hospital, Ankara

Address of Correspondence: *Mine Kanat Pektaş*
Ertugrul Gazi Mah. Kutlugun Sok.
No: 37/14 İçcebeci, Ankara
minekanat@hotmail.com

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Figure 1: Transvaginal ultrasonography shows the linear echogenic area with posterior

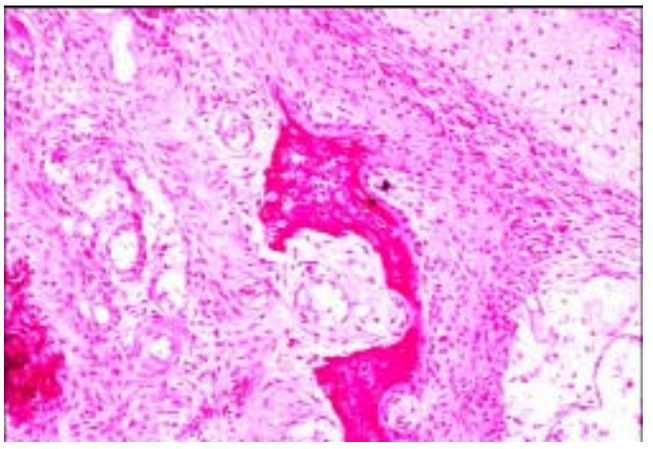

Figure 2: Histopathological analysis shows mature osseous tissue consistent with fetal bones at about 20th week of gestation (x500 magnification, hematoxylin and eosin stain)

Discussion

Infertility can be caused by calcification and ossification of fetal tissues that remain within uterus after spontaneous or induced abortions. Since gynecologic instruments are rarely used during termination of second trimester pregnancies, fetal bones including pieces of skull or extremities can easily disintegrate and retain in uterine cavity.[1] However it has been hypothesized that even early abortions occurring before fetal bone development may lead to formation of calcified residues due to osseous metaplasia of endometrium and endocervix.

Prolonged infection and inflammation of endometrial and endocervical tissues may induce alteration of endometrial stromal cells into cartilaginous or bony tissues.[2]

Retained bony fragments may trigger local release of prostaglandins which may cause prevention of blastocyst implantation. Moreover retained fetal bones may act as intrauterine devices or adhesions that result in unwanted contraception.[1,2]

The literature reviews subjects with secondary infertility related to prolonged retention of fetal bones. The mean age of these subjects had a range between 20 and 36 years. The terminated pregnancies of reviewed subjects had gestational age which differed from 12 to 26 weeks. The mean interval between pregnancy termination and clinical presentation is reported between 18 and 180 months for the reviewed subjects in the literature. Although irregular uterine bleeding was the most frequent accompanying symptom, nearly half of the reviewed subjects had no other associated symptoms. Moreover most of the reviewed subjects were reported to conceive spontaneously after the removal of intrauterine residual tissues[1, 2]

Retained fetal bones are suspected in case linear echogenic endometrium appers on transvaginal USG or filling defects occur on HSG. Transvaginal USG should be the imaging method of choice in evaluation of women who present with infertility, pelvic pain, irregular bleeding and vaginal discharge after an induced or spontaneous abortion.[1]

During hysteroscopy, saline infusion can allow visualization of persisting bones by means of cavitary distention. However this non-invasive procedure may overlook bone fragments that have been embedded deep in endometrium at the endometrial-myometrial junction. Further investigation should be performed when an echogenic area appears in sonographic scans of uterus and hysteroscopy reveals empty uterine cavity. As hysteroscopy also provides the opportunity for treatment of existing retained fragments and related intrauterine adhesions, such an intervention also should aim to reestablish fertility.[1]

In the present case, fetal bony pieces are found to be placed within cervix while in literature, most of the retained bones are reported to be located in the posterior portion of uterine fundus. Although hysteroscopy seems to be the most effective means of treating retained fetal tissues and related adhesions, curettage should be preferred when hysteroscopy is not feasible.

However it should be kept in mind that rigorous curettage may be complicated with uterine perforation if there is endometritis induced by prolonged retention of fetal tissues.[1,2]

Regardless of the interval between the abortion and presentation of secondary infertility, a detailed history should be obtained. Moreover both uterus and cervix should be carefully evaluated by transvaginal USG, and if possible by hysteroscopy. The expectancy of pregnancy is high following the removal of fetal bones provided that there is no other pelvic inflammatory disease. Consequently, fetal tissue retention within either uterine cavity or cervix should be considered as a recognizable and treatable cause of secondary infertility.

Olgu Sunumu: Servikste Fetal Kemik Retansiyonuna Bağlı İnfertilite Durumu

Servikste fetal kemik parçalarının uzun süreli retansiyonuna bağlı ikincil infertilite olgusunun sunulması amaçlanmıştır.

Kronik pelvik ağrı, disparoni ve infertilite yakınmalarıyla kliniğimize başvuran 34 yaşındaki nullipar olgunun 12 yıl önce intrauterin fetal ölüm nedeniyle geçirdiği gebelik terminasyonunu takiben gebe kalamadığı öğrenildi. Transvajinal ultrasonografide posterior servikal duvarda bulunan bir linear ekojenik alan gözlemlendi. Histeroskopik incelemede, bu alanın düzensiz yapıda kalsifiye bir kitle olduğu tespit edildi ve kitle eksize edildi. Patolojik inceleme sonucu ise konglomere fetal kemik olarak rapor edildi.

İstemli veya istemsiz gebelik terminasyonunu takiben infertilite durumunun ortaya çıkması halinde servikste veya uterus içinde fetal kemik retansiyonu olabileceği akla getirilmelidir. Bu durumu araştırmak için ayrıntılı anamnez alınmalı ve transvajinal ultrasonografi yapılmalıdır.

Anahtar Kelimeler: Fetal kemik, Histeroskopi, İnfertilite, Retansiyon, Ultrasonografi

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