

Spontaneous Fracture and Vaginal Expulsion of the Arm of Intra-Uterine Device: Case Report

Rahim İçi Aracın Spontan Olarak Kırılması ve Kolunun Vajinal Olarak Atılıması: Olgu Sunumu

Rahim İçi Araç Kırılması / Fracture of Intrauterine Device

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Özet

Rahim içi araç (RIA) dünya çapında yaygın olarak kullanılan etkin ve güvenilir bir doğum kontrol yöntemidir. Ancak kullanım sırasında nadiren kendiliğinden veya iatrojenik olarak kırılabilirBiz 30 yaşında bir kadında 2 yıl önce takılmış bakırlı RIA'nın tek kolunun kendiliğinden kırıldığı ve atıldığı olguyu sunulmuştur. Hasta kliniğimize vajinal çıkımda yabancı bir cisim tarileyerek başvurmuştur. Yapılan transvajinal incelemede RIA'nın yerinden oynadığı ve sol kola ait ekojenitenin olmadığı izlenmiştir.Rahim içi araç kırılması nadir görülse de özellikle RIA'nın dislike olduğu vakalarda akılda tutulmalıdır. Rutin kontrollerde ultrasonografik olarak fundustan uzaklık ve lokalizasyonun yanı sıra ekojenitenin devamı ve bütünlüğü de değerlendirilmelidir.

Anahtar Kelimeler

Rahim İçi Araç; Doğum Kontrolü; Ultrasonografi

Abstract

Intrauterine device (IUD) is an effective and safe contraceptive method which is commonly used worldwide. However, spontaneous or iatrogenic IUD fracture was rarely occurred during usage. We present the case about spontaneous fracture of one arm of copper IUD and the spontaneous expulsion of the broken piece in a 30-year-old woman 2 years after insertion. The patient recoursed to our clinic due to finding of a foreign body at vaginal outlet. Copper IUD was dislocated in transvaginal ultrasonographic (TVUSG) examination and echogenicity of left transverse arm was not identified in transvers section.Although IUD fracture seems rarely, it must be born in mind especially when dislocation exists. Distance to fundus and its location, besides the continuity of its echogenicity and integrity should be observed during routine controls.

Keywords

Intauterine Device; Contraception; Ultrasonography

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Introduction

Intrauterine device (IUD) is a cost efficient, effective, long acting and reversible contraceptive method which is preferred by an increasing number of women worldwide [1]. The use of IUD may be associated with abnormal uterine bleeding, pelvic pain, dysmenorrhea. Also dislocation, expulsion and perforation can be seen [2, 3].

Spontaneous or iatrogenic IUD fracture is seen rarely in literature as case presentations. Here we present the case about spontaneous fracture of one arm of copper IUD and the spontaneous expulsion of the broken piece in a 30-year-old woman 2 years after insertion. The patient recoursed to our clinic due to finding of a foreign body at her vagina outlet. At transvaginal ultrasonography (TVUSG) copper IUD was dislocated and echogenicity dependent to left transverse arm was not identified in transvers section. This is the first case reported in the literature about the spontaneous breakage of one arm of copper IUD and subsequent spontaneous expulsion of the broken piece.

Case Report

A 30 years old patient who gave her first birth by cesarean section 2 years ago recoursed to our clinic due to finding of a foreign body at her vagina outlet. The foreign body was determined to be a piece of copper IUD. Copper IUD (Copper T380A) was inserted in the postpartum 2nd month easily, without any complication. It was in its place at the controls in the 3rd and 18th months. The patient complained from blot hemorrhage for 20 days and pelvic pain for 2 days. During the gynecologic examination the string of IUD was seen and minimal blood was observed in cervical ostium. In TVUSG examination, copper IUD was seen as dislocated. Left transverse arm echogenicity was not identified in transvers section (Fig. I). It was found out that copper IUD has broken at the joint of left transverse arm and vertical body. It was removed easily by pulling the string. Additional intervention was not necessitated because the broken piece and the piece taken out had complemented each other and echogenicity dependent to copper IUD was not identified at control TVUSG (Fig. II).



Fig I. Absence of the left arm echogenicity



Fig II. Broken and removed part of IUCD

Discussion

IUD is an effective and safe contraception method which is commonly used worldwide [1]. Its ease of use and very rarely observed systemic side effects provide an advantage as to the other contraception methods [4]. It may cause abnormal uterine bleeding, pelvic pain and dysmenorrhea. Also dislocation, expulsion and uterine perforation can be observed [2, 3].

Spontaneous or iatrogenic fracture of IUD is a quite rarely seen situation. In the reported cases breakage and retention of IUD has been occurred during removal[4]. In the first spontaneous fracture of copper IUD case, the vertical piece of it was expelled 5 weeks after its easy postpartum placement; the remaining piece was removed by hysteroscopy[5]. To the best of our knowledge this is the first case of spontaneous fracture of one arm of copper IUD and the spontaneous expulsion of the broken piece.

Emerging of a stress on T-junction due to imposing excessive force to the arms during placement, increase in the stress resulting from uterine contractions developed during menses and manufacturing defects are considered being responsible from breakage of IUD [6]. To understand fracture mechanisms, force imposed to different IUD types during the insertion, removal and breakage are measured [6, 7]. According to the results of these measurements, a force of 1.5-4 N and 5-6 N is needed for an easy IUD placement and removal, respectively. However for the breakage of IUD 15-22 N force is needed [6, 8]. Moreover it was shown that, as the time period in uterus is extended, the pressure for breakage gets lower [9]. Because uterus can create 20 N magnitude force, uterine forces seems to be more effective factor on fracture mechanism than the forces applied during routine IUD insertion and removal [6, 8]. In fact most of the fractures identified during removal might occur previously. Unless routine ultrasonography is performed before removal or continuity of IUD echogenicity is examined carefully, intrauterine fractures can be overlooked. In our case, if the broken piece had not been expelled spontaneously and it had not been realized by the patient, it could be perceived as broken during removal.

Uterine forces resulting in IUD fracture and dislocation seems to be same [8]. In our case, coexistence of dislocation and fracture and spontaneous expulsion of the broken piece gave rise to the thought of the effects of the uterine contractions in the foreground. However, determining whether dislocation or fracture was occurred first was not possible. Due to dislocation, more pressure might be imposed on the joint of the left arm and the body and that may cause fracture or; after the fracture, stabilization of IUD might be disconcerted and this might be the cause of dislocation. For this reason, when dislocation is determined, to eliminate the fracture risk, dislocated IUD should be removed as soon as possible. In addition, retention of the broken piece can cause adhesion, infection, perforation and infertility [4, 5]. In our case, because the broken piece was spontaneously expelled and the remaining piece was removed easily, additional intervention was not necessitated.

In conclusion, IUD fracture possibility must be born in mind especially when dislocation exists. During routine controls, distance of the IUD to fundus and its location, besides the continuity of its echogenicity and after removal its integrity should be observed. The patients should be informed about this rare but important condition and checked periodically. Moreover, IUD manufacturers must be informed on the fracture cases to improve the manufacturing quality.

Competing interests

The authors declare that they have no competing interests.

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