IUD String Perforation Through Anterior Cervix: A Case Report

Wendy V. Norman, MD, MHSc,[1,2] Danielle Stothart, MD[2]

[1]Department of Family Practice, University of British Columbia, Vancouver BC

[2]Women's Health Research Institute, Contraception Access Research Team, British Columbia Women's Hospital, Vancouver BC

Abstract

Background: Intrauterine devices are increasingly the preferred method of contraception chosen by Canadian women. IUD strings are commonly not visible at follow-up, but rarely are visible yet not located within the endocervical canal. We report a case of IUD strings perforating the ectocervix.

Case: An asymptomatic, 26-year-old woman presented for removal of her levonorgestrel-releasing intrauterine system, over a year following insertion of the device. Upon examination the IUD strings were found to be emerging from within the cervical tissue, 10 mm above the external os.

Conclusion: We discuss removal techniques, review the literature, and examine possible reasons for this presentation. These techniques may interest a range of practitioners managing contraceptive care for women.

Résumé

Contexte : Les dispositifs intra-utérins constituent de plus en plus le mode de contraception privilégié par les Canadiennes. Les fils de DIU ne sont fréquemment pas visibles au moment du suivi; toutefois, lorsqu'ils sont visibles, il est rare que l'on ne soit pas en mesure de les localiser dans le canal endocervical. Nous signalons un cas de fils de DIU ayant perforé l'exocol.

Cas : Une femme asymptomatique de 26 ans a sollicité nos services pour le retrait de son système intra-utérin à libération de lévonorgestrel, plus d'un an à la suite de l'insertion de ce dernier. Au moment de l'examen, nous avons constaté que les fils du DIU émergeaient du tissu cervical (10 mm au-dessus de l'orifice externe).

Conclusion : Nous discutons des techniques de retrait, nous passons en revue la littérature et nous examinons les raisons possibles d'une telle présentation. Ces techniques pourraient intéresser un certain nombre de praticiens offrant des soins contraceptifs aux femmes.

Key Words: Intrauterine device, IUD, strings, threads, missing IUD, missing IUD strings, intrauterine system, IUS, anterior cervical lip, levonorgestrel-releasing IUS

Competing Interests: See Acknowledgements.

Received on July 14, 2014

Accepted on August 25, 2014

INTRODUCTION

In Canada, IUD use has traditionally been lower than in many European countries, where up to 40% of reproductive age women use an IUD,[1,2] However, IUDs are increasingly recommended[3] and their use is growing.[4] Canadian health care providers will therefore increasingly be asked to care for women seeking IUD removal or replacement. Usual removal is straightforward when the strings are visible.[5] The purposes of IUD strings are to provide a means of ensuring that the IUD is not missing from the uterus through expulsion or perforation, and to aid in the removal of the device.[6] The most common issues for which women seek medical attention following IUD insertion are dyspareunia, bleeding pattern changes, and missing strings.[7–9] The most common reasons for strings to be missing are retraction of the strings into the cervix or uterus, translocation of the device by perforation, and expulsion of the device.[8–11]

Rarely, IUD strings have been reported as present, but not located in the endocervical canal. Techniques for office management of such cases are of interest not only to practitioners inserting IUDs but are to a wide range of practitioners managing contraceptive care for women.

THE CASE

A 26-year-old nulliparous woman presented requesting removal of her intrauterine device (a levonorgestrel-releasing intrauterine system), inserted 15 months previously. She had consulted a dermatologist because of a one-year history of intractable acne. After the patient had undergone multiple acne treatments without success, removal of the levonorgestrel-releasing intrauterine system (LNG-IUS) was recommended.

J Obstet Gynaecol Can 2015;37(4):345–348

The patient had consulted a walk-in clinic physician requesting removal of the intrauterine device. A speculum examination was performed, and the IUD strings were observed, but the physician did not attempt removal of the device. Our clinic is nearby and provides referral services for difficult IUD insertions and IUD management. The woman was referred to our service for IUD removal. Fifteen months before presentation, the woman had had a surgical abortion at six weeks' gestation. She was not at increased risk for infection, and she had a past medical history significant only for labioplasty and breast augmentation surgery. The Pap test and PCR tests for Chlamydia and gonorrhea were negative at the time of the abortion. Immediately after the abortion the LNG-IUS was inserted uneventfully. The surgical abortion was recorded as straightforward, and no difficulties at the time of insertion of the LNG-IUS were noted. It is not known whether the patient complied with the surgeon's recommendation to have a follow-up "IUD check" six weeks after insertion.

At the time of presentation for IUD removal, the woman was asymptomatic and in no distress. Transvaginal ultrasound examination showed the LNG-IUS appropriately located in the uterine cavity, with no evidence of abnormal positioning or of any uterine abnormality. On speculum examination, we noted the two LNG-IUS strings passing through the anterior lip of the ectocervix, approximately 10 mm from the external os (Figure 1).

In preparation for removal, the cervix and vagina were cleansed with chlorhexidine solution, and an intracervical block was performed using 20 mL of 1% buffered lidocaine. We used a single-toothed tenaculum to grasp the cervix, and inserted an IUD retrieval instrument (Figure 2) into the external os. We noted the strings retracting into the cervical tissue as the IUD retrieval instrument advanced through the endocervical canal (Figure 3). Once the strings were fully retracted, removing the instrument drew both strings into a normal position extruding 3 cm through the cervical canal. Minimal bleeding was noted. With this relocation of the strings, the LNG-IUS was subsequently easily removed by standard technique using a ring forceps at the level of the external os. The LNG-IUS was fully intact. No complications were noted during or following the procedure (Figure 4), and a final transvaginal ultrasound examination showed a normal uterus.

DISCUSSION

Infrequently, it has been reported that the strings of an IUD may perforate the ectocervix. In a study by Marchi et al., 5% of 14 935 women having an IUD insertion had missing strings at follow-up; of these, 1.2% were the result of the device being expelled and 0.7% were the result of perforation and extrauterine localization, most commonly within the pelvis.[10] These authors did not report penetration of the cervical canal by the strings or altered location of the strings. It is not surprising that the woman in our case did not have symptoms, because most uterine perforations by the device are either asymptomatic or accompanied by only mild symptoms, most commonly irregular bleeding.[8,10,12]

Only three case reports have described IUD strings exiting through the cervix itself and not the external os.[13–15] The most recent of these (published by Gbolade in 2010) described protrusion of the strings through the anterior cervical lip, approximately 1 cm from the external os.[13] In this case, parts of both strings were seen at the external cervical os, so that removal required pulling on the strings in the external os to allow the ectopically placed strings to retract through the shallow fistulous tract formed by the strings. The author proposed a laceration of the epithelium of the cervical portio vaginalis by the single-toothed tenaculum used at the time of insertion as a possible cause. Such a laceration could heal over a string that had migrated into the fistulous tract. The patient described in this report was relatively asymptomatic, having noted only a low backache. The IUD had been in place for four years, and the patient had requested removal and replacement when she was informed of the anomalous location of the strings.[13]

Silverman and Rubinstein (1980) described finding the strings of a copper IUD that were observed to be protruding directly through the ectocervix, 6 mm above the external cervical os.[14] Because the insertion device for this older model of copper IUD caused a curve in the strings, they postulated that this curved memory of the strings caused them to penetrate the cervical lip.[14] The oldest reported case of cervical perforation by strings involved a Lippes loop device; the strings were seen to protrude through the ectocervix 7.5 mm from the external os. There was an erosion of the cervical lip in this case and it was presumed, similar to the postulation by Gbolade,[13] that a layer of metaplastic squamous epithelium had grown over the strings in that location.[15]

As noted by Gbolade,[13] it is unlikely that the iron oxide and polyethylene composition of the strings of the levonorgestrel-releasing intrauterine systems makes them sufficiently rigid to perforate the cervical lip. Thus, the two most plausible explanations for this occurrence are the development of a fistulous tract caused by the single-toothed tenaculum used at the time of insertion, providing a canal for the string(s), or a laceration of the cervix caused