

CASE REPORT

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Intrauterine device displacement into a cesarean section scar

Minyoung J Park, Brianna King, Geri Schmitt

ABSTRACT

Introduction: The rate of cesarean section (CS) delivery continues to trend upwards. The popularity of the intrauterine device (IUD) parallels this upward trend. Instances of IUD displacement into a CS scar have been rarely reported. The incidence, effects, and management of such a specific IUD displacement could be worth exploring in both asymptomatic and symptomatic patients.

Case Report: We present a case of IUD displacement into a CS scar in a symptomatic patient. A 41-year-old woman with a surgical history of three cesarean sections presented for a removal and replacement of her levonorgestrel-releasing intrauterine device (LNG-IUD). After an uncomplicated removal and replacement, the patient's replacement IUD was found displaced at the level of the CS scar via a trans-vaginal ultrasound (TVUS). No further intervention with this replacement IUD occurred due to lack of symptoms.

Two years later, the patient had menstrual irregularities and pelvic pain associated with the IUD displacement, warranting its removal and replacement. In the weeks following this second removal and replacement with a

new IUD, the replacement IUD was found displaced once again, but this time displaced into the patient's CS scar. At this point, the patient opted for an alternative means of contraception. The IUD was to be left in place until her next scheduled appointment. However, the patient canceled the appointment and did not respond to office follow-up. Ten months later, the patient returned to our facility for her IUD removal and informed us that she will not be requiring an alternative contraception method because her partner had received a vasectomy.

Conclusion: Intrauterine device displacement is a phenomenon with an occurrence rate of up to 25% among IUD users. An IUD displacement into the CS scar is an atypical finding that warrants further investigation regarding patient comfort and contraceptive efficacy.

Keywords: Cesarean section scar, Displacement, Intrauterine device

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INTRODUCTION

The percentage of CS deliveries is measured to have increased over in the last decades to 19.1% worldwide [1]. The IUD is also notably popular for its efficiency, ease of insertion and maintenance, and low-risk of complications and side effects. Intrauterine device misplacement occurs when the IUD is found to be removed from the ideal fundal site either within or outside of the uterine cavity [1]. Intrauterine device displacement specifically

refers to the IUD misplaced from the uterine fundus to an intrauterine location, such as a CS scar or the uterine wall. Such cases can occur as high as 25% in IUD users [1–3].

These patients are either asymptomatic or present with symptoms of abdominal pain or abnormal uterine bleeding. While a literature review of 1748 pelvic ultrasound reports from January 2003 to June 2008 shows displacement rates of 10.4% [2], another retrospective review of 239 ultrasound reports from July 2008 to June 2009 shows displacement in 25% of IUD users [3]. In one study, 35.7% and 39.3% of women with IUDs abnormally embedded within the myometrium or cervix (n=28) were found to have symptoms of abnormal bleeding or pelvic pain, respectively [4]. There remains insufficient data with respect to rates of symptoms, or lack thereof, in cases of non-embedded IUD displacement.

Another study supports the findings that the vast majority of misplacements of IUD occur in an intrauterine location [5]. Studies with IUD displacement findings with respect to CS scars remain scant. Here, we present a case of a non-embedded IUD displacement into a CS scar and discuss current management considerations for displaced intrauterine devices pertaining to both symptomatic and asymptomatic patients.

CASE REPORT

A 41-year-old premenopausal woman gravida 5 para 3023 (three term pregnancies, zero preterm pregnancies, two abortions, three living children) presented to our facility in 2019 for replacement of her LNG-IUD, placed in 2013, due to abdominal cramping and abnormal uterine bleeding for a week. These symptoms were believed to be associated with her overdue IUD removal. She had a history of three previous cesarean deliveries.

Prior to this index visit, the patient said that she was asymptomatic from her IUD use. On exam, our patient was afebrile and hemodynamically stable with a nontender abdomen.

Five days later, the patient had her first IUD removal and replacement, for which the procedure was uncomplicated. At a six-week follow-up appointment, TVUS revealed that the new IUD was found in the lower uterine segment and not at the fundus. Our patient was asymptomatic at this time, and thus no interventions were made.

Two years later, the patient returned to the office with the primary concerns of irregular, unpredictable vaginal bleeding and pelvic pain. A diagnostic TVUS at this time showed one arm of the LNG-IUD in the area of the CS scar, and IUD removal was recommended. Two 200-mcg tablets of misoprostol were given and counseled to insert in the vagina four hours prior to the IUD removal. The patient returned one week later and had her second IUD removal and replacement. A TVUS (Figures 1 and 2) immediately following the replacement showed one IUD arm extending into the CS scar. At this time, the patient opted for a permanent sterilization procedure and decided

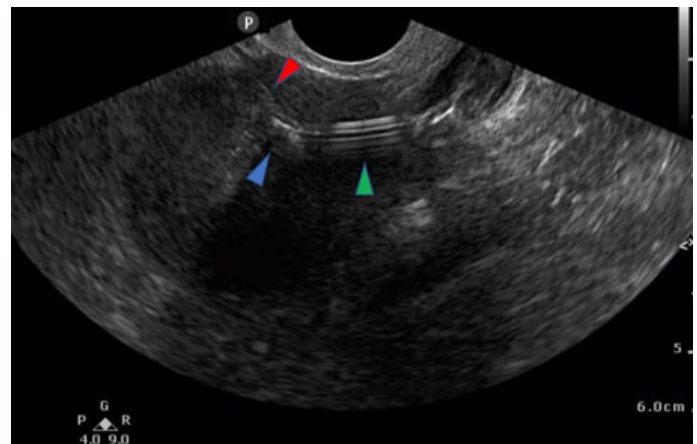


Figure 1: TVUS view 1. Sagittal view with IUD in the lower uterine segment with IUD arm at the level of the cesarean scar. Red arrow: Cesarean scar, Blue arrow: IUD arm, Green arrow: IUD body.

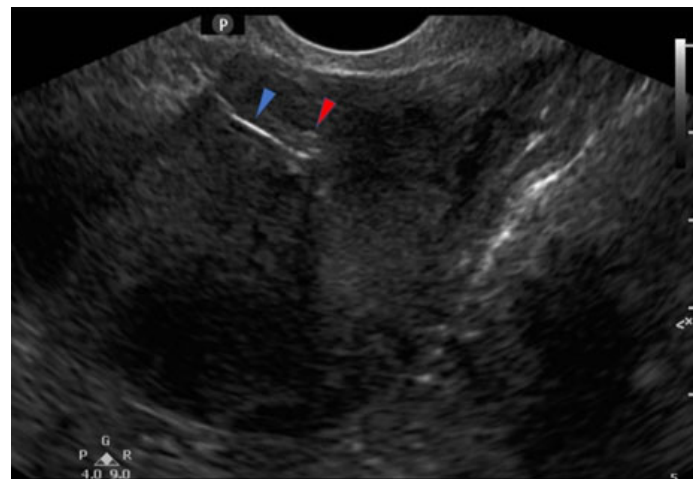


Figure 2: TVUS view 2. Sagittal view with IUD arm extending into the cesarean scar. Red arrow: Cesarean scar, Blue arrow: IUD arm.

to continue the IUD as a contraceptive placeholder until then. However, the patient canceled the procedure and did not respond to office follow-up attempts. Ten months later, the patient returned to our facility for her IUD removal and requested for two 200-mcg tablets of vaginal misoprostol for self-administration. The procedure was uncomplicated and successfully completed. The patient informed us that she will not be requiring another form of contraception because her partner had completed a vasectomy.

DISCUSSION

With rising rates of cesarean sections and postpartum IUD contraceptive use, this is a case in which an IUD displacement occurred into a cesarean scar. Management of the symptomatic or asymptomatic patient with this specific type of IUD migration should consider possible complications after IUD displacement.

Literature specifically pertaining to IUD displacement into a CS scar is limited. However, an IUD displacement is generally shown to have the potential to cause abnormal uterine bleeding and pain along with a rare perforation risk of 0.1–0.2%, a percentage that is higher with inexperienced clinicians, IUD placements prior to six months postpartum, nulliparity, and higher miscarriage rates [6, 7]. Although provider experience may influence proper IUD placement, IUD displacement has been associated primarily with the discrepancy between the IUD and uterine width cavity [6].

Of note, compared to patients with misplaced copper-containing IUDs, patients with misplaced LNG-IUDs have lower risks of adhesion formation and contraceptive failure [8]. In the asymptomatic patient, current recommendations point to expectant management; in the symptomatic patient, removal followed by replacement is favorable [6].

Additionally for asymptomatic patients, studies show statistically significant increased efficacy in contraception with the maintenance of an IUD in its incorrect yet stable intrauterine position when compared to outcomes after extraction of the IUD. Some have posited that this is most likely due to the IUD's unparalleled contraceptive capacity versus other pregnancy preventative methods that a patient would select [9]. As the risks of in-office or surgical IUD removal outweigh the benefits, close monitoring in the asymptomatic patient with IUD displacement is acceptable [10].

CONCLUSION

Current literature regarding IUD displacement into CS scars is limited, thus more research into contraceptive efficacy and complications of such instances could benefit the scope of both gynecological and obstetric practice. With the potential of such a specific IUD displacement to occur, health professionals should recognize this possibility when inserting IUDs in patients with prior uterine scars.

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Minyoung J Park – Conception of the work, Acquisition of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Brianna King – Conception of the work, Acquisition of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Geri Schmitt – Conception of the work, Acquisition of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

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Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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