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Case Report

Double intra-abdominal migration of intrauterine devices after unrecognised uterine perforation: the pitfall of presumed expulsion

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ABSTRACT

Uterine perforation complicates one to two of every 1000 intrauterine device (IUD) insertions. The simultaneous presence of two migrated devices within the abdomen is exceptional. We report the case of a 27-year-old primigravida and primipara who presented with pelvic pain one year after a vaginal delivery, and in whom a second IUD had been inserted after presumed expulsion of the first. Ultrasound demonstrated an extrauterine IUD in the right para-adnexal region. Plain abdominal radiography revealed two intrapelvic devices. In view of these findings, laparoscopy allowed removal of both IUDs, one in the right para-adnexal position and the other retrovesical, embedded in fatty connective tissue. The postoperative course was uneventful. This rare observation is a reminder that expulsion of an IUD is a diagnosis of exclusion. Any new insertion should be considered only once expulsion or removal of the previous device has been established with certainty.

Keywords: Intrauterine device, Uterine perforation, Migration, Laparoscopy, Radiography

INTRODUCTION

The intrauterine device (IUD) is one of the most widely used long-acting reversible contraceptive methods. It is highly effective and well accepted, and its use is widespread worldwide. Among its adverse effects is migration following uterine perforation. Perforation is rare, estimated at approximately one to two cases per 1000 insertions.[1-3] This complication is sometimes asymptomatic, which delays its diagnosis, most often prompted by "missing threads", pelvic pain or an unintended pregnancy.[4,5] The postpartum period and breastfeeding are the main risk factors.[1,2]

While intra-abdominal migration of a device is well described, the simultaneous presence of two intraperitoneal devices in the same patient is exceptional. It presupposes the combination of an unrecognised perforation and of a reinsertion performed without the fate of the first device having been established. We report such an observation, managed by laparoscopy at Saint-Louis Regional Hospital, between 17 July and 18 August 2026.

CASE REPORT

The patient was a 27-year-old primigravida and primipara, admitted to our department for pelvic pain that had been present for two weeks, without metrorrhagia. She had delivered vaginally one year earlier and had subsequently, at a distance from delivery, been fitted with a copper IUD by a midwife.

At follow-up, the device threads were not visible on speculum examination. Pelvic ultrasound concluded that the uterus was "empty", and unnoticed expulsion was assumed: a second copper IUD was inserted the same day. The pelvic pain prompting the present consultation appeared a few weeks later.

Clinical examination found pelvic tenderness, without guarding or signs of infection. Pelvic ultrasound demonstrated an intrauterine device in an extrauterine, right para-adnexal position, indicating uterine perforation (Figure 1). Plain abdominal radiography, requested in order to establish the number and position of the devices, revealed two radiopaque IUDs projected over the pelvis (Figure 2). In view of these findings, operative laparoscopy was indicated. The operative objective was thereby modified: the exploration had to find and remove two devices, not one.

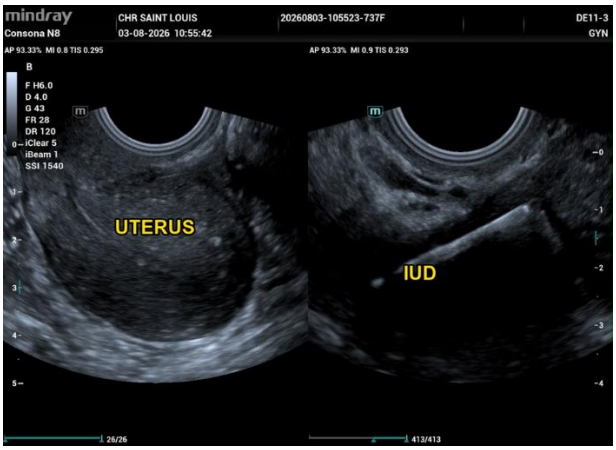


Figure 1: pelvic ultrasound, intrauterine device in an extrauterine, right para-adnexal position and consistent with uterine perforation.

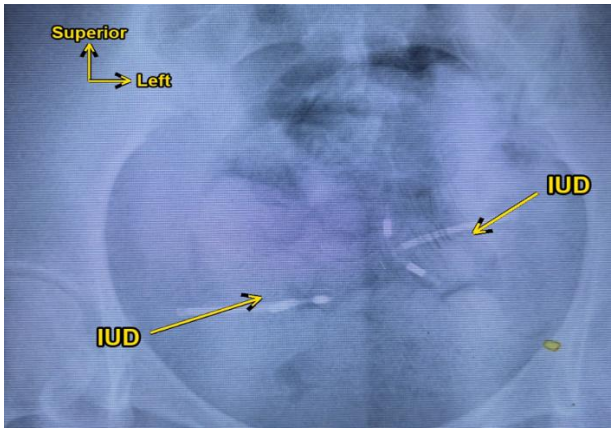


Figure 2: preoperative plain abdominal radiograph, two radiopaque intrauterine devices projected over the pelvis (arrows).

Laparoscopy confirmed the two migrated devices: the first retrovesical, embedded in fatty connective tissue, the second in the right para-adnexal position (Figure 3). After adhesiolysis and careful dissection, both devices were removed intact together with their threads (Figure 4), and the integrity of the neighbouring organs was verified. The postoperative course was uneventful.

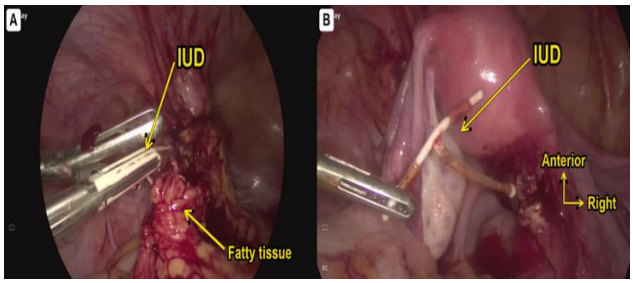


Figure 3: Laparoscopic views; (A) Retrovesical device embedded in fatty connective tissue; (B) Copper device in the right para-adnexal position (arrows).

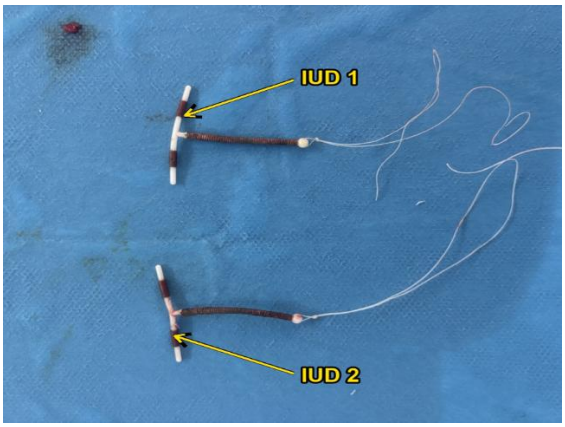


Figure 4: Surgical specimens, both copper intrauterine devices removed intact together with their threads (arrows).

DISCUSSION

The simultaneous presence of two intraperitoneal devices in the same patient is the striking feature of this observation. Uterine perforation is rare, one to two cases per 1000 insertions, favoured by the postpartum period and breastfeeding, when the myometrium is thin and incompletely involuted and most often asymptomatic at the time of insertion.[1-5]

The recurrence of this rare complication in the same patient may involve three mechanisms, alone or in combination: insertion of the second device through the persistent perforation tract of the first; local residual myometrial weakness predisposing to a new perforation at the same site; or secondary, progressive transmural migration, described with partially embedded devices.[4,5] The operative findings show one retrovesical device long embedded in fatty connective tissue and the other para-adnexal, free and of recent appearance, and suggest two successive rather than simultaneous events, the second facilitated by the first.

This exceptional entity is nevertheless not a matter of chance: it arises from a classic diagnostic pitfall, that of presumed expulsion. Expulsion, which is more frequent than perforation, is a diagnosis of exclusion: when the threads are not visible and the uterine cavity appears "empty" on ultrasound, any device, consistently radiopaque, must be localised by plain abdominal radiography, supplemented where necessary by computed tomography in case of topographic doubt, before any conclusion is drawn.[4,6] In our observation, omission of this step turned a simple perforation into a double migration; conversely, the radiograph obtained before laparoscopy made it possible to count the devices and to avoid an incomplete exploration. The resulting rule is simple: no new intrauterine contraception should be offered before the fate of the previous device has been established.

Imaging deserves a comment: ultrasound, excellent for confirming an empty uterine cavity and for detecting a juxta-uterine device, may fail to detect an intraperitoneal device masked by bowel gas or embedded in the omentum.[6] The work-up of a migrated device must therefore include imaging of the whole abdomen, as confirmed by our observation, in which ultrasound identified only the para-adnexal device, the second being discovered solely on the plain abdominal radiograph.[6]

Management is in line with current recommendations: removal of any intraperitoneal device is indicated, even when asymptomatic, because of the risk of adhesions, obstruction, fistula and perforation of hollow viscera, and laparoscopy is the first-line approach, with a success rate above 90% in published series.[7-9]

The interest of this observation lies in the combination of two events, each rare when taken separately. While intra-abdominal migration of an intrauterine device is a well-documented complication of uterine perforation, the coexistence of two migrated devices in the same patient remains exceptional. It presupposes not only an initial unrecognised perforation, but also a second insertion performed without the fate of the first device having been established. This double occurrence, to our knowledge rarely reported in this form in the literature, illustrates a rare clinical scenario in which the history of the first event directly conditions the occurrence of the second.

Beyond its epidemiological interest, this observation is above all demonstrative: it highlights, in an almost experimental manner, the consequences of a failure to localise the device systematically before concluding that expulsion has occurred. The contrasting operative appearance of the two devices, one old and embedded in the retrovesical fatty connective tissue, the other recent and free in a para-adnexal position, provides a genuine chronological snapshot of the avoidable cascade leading from presumed expulsion to double migration. This case thus constitutes a rare teaching aid, recalling a simple rule that is sometimes neglected in practice: no new intrauterine contraception should be offered before the previous device has been formally localised.[10,11]

CONCLUSION

This observation shows that simultaneous intra-abdominal migration of two intrauterine devices may result from a presumed expulsion that was not confirmed by imaging, followed by reinsertion without localisation of the initial device. It underlines two practical imperatives: first, the diagnosis of expulsion should be accepted only after formal radiological localisation of the device, since ultrasound alone may fail to detect an intraperitoneal device; second, any new insertion should be deferred as long as the fate of the previous device has not been established. Laparoscopy remains the reference approach for the removal of migrated devices, including old and embedded ones, with a high success rate reported in the literature.

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