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Case Report

Intraovarian migration of the intrauterine device; complicated by haemorrhagic ovarian cyst

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ABSTRACT

Intraovarian migration of the intrauterine device is a rare situation. We report a case of uterine perforation by an IUD that resulted in a haemorrhagic ovarian cyst in a 26-year-old multiparous woman. The diagnosis was suspected in the face of intense pelvic pain occurring 11 days after IUD insertion and confirmed by ultrasound. The treatment consisted of a laparotomy allowing the extraction of the IUD, the closure of the uterine breach and a cystectomy.

Keywords: Intrauterine device, Uterine perforation, Intraovarian migration, Haemorrhagic cyst of the ovary

INTRODUCTION

Closely spaced pregnancies, early pregnancies, unwanted pregnancies, induced abortions and their complications have led to the conception of family planning and the development of contraceptive methods. The intrauterine device (IUD) is one of the most widely used contraceptive methods in the world. It is a simple, effective and reversible method with a Pearl index of less than 1 per 100-woman years.[1,2] Its action is at the level of the endometrium; cervical mucus, fallopian tubes and sperm. Uterine perforation by the IUD, with migration of the latter towards neighboring structures, is a rare complication of the insertion of the IUD.[3,4] Ultrasound retains a prominent place in the diagnosis of trans-uterine migration of the IUD, supplemented in some cases by Computed tomography or better still pelvic MRI.[4] Management is based on the systematic removal of the migratory IUD, even in the absence of symptoms.[5] We report a rare case of uterine perforation by an IUD resulting in a hemorrhagic ovarian cyst in a 26-year-old patient.

CASE REPORT

It was a 26-year-old patient; G4P4V3. There were three caesarean births in her history. She had a copper Cooper T type IUD inserted by a gynecologist 40 days after her last caesarean section. She had consulted in our service 11 days after the insertion of the IUD for intense pelvic pain evolving for 24 hours before her admission. During the interrogation, she reported a history of violent pelvic pain felt at the time of the insertion of the IUD. The physical examination found a patient with good hemodynamic and ventilatory status. The abdomen was painful on palpation of the right iliac fossa. The speculum examination noted the disappearance of the IUD marker thread at the level of the cervical orifice. Vaginal examination found right

latero-uterine pain. The rest of the clinical examination was normal. A pelvic ultrasound showed the presence of the IUD in the pelvic cavity in contact with a hemorrhagic cyst measuring 43x36mm in diameter depending on the right ovary (Figure 1).

Figure 1 (A and B): Ultrasound image showing the IUD in contact with a hemorrhagic ovarian cyst.

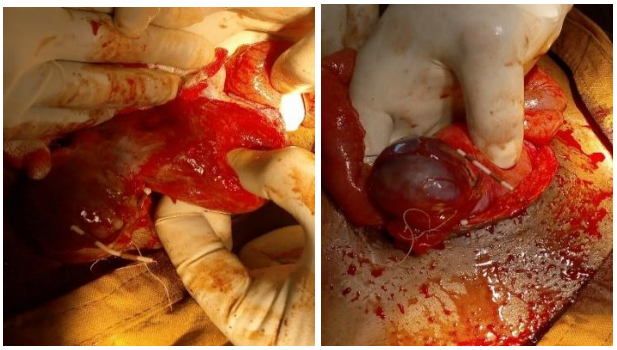

Figure 2: Uterine performance (A) with intraovarian migration of the IUD resulting in a hemorrhagic cyst of the right ovary (B).

Figure 3 (A and B): Ablation of the cyst after extraction of the IUD and suturing of the uterine perforation.

The biological assessment was normal. We performed a laparotomy to extract the IUD migrated into the pelvic cavity. When the abdominal cavity was opened, a uterine perforation was observed with intraovarian migration of the IUD in contact with a hemorrhagic cyst (Figure 2).

The IUD was removed, the uterine perforation was sutured with vicryl 1, then the cyst was removed (Figure 3). The postoperative follow-up was simple and the patient was discharged from the hospital on postoperative day 5 with good health.

DISCUSSION

This observation reports the clinical and radiological illustrations of a uterine perforation by an IUD followed by its intraovarian migration in a 26-year-old multiparous woman who was implanted with a copper IUD 40 days after her last caesarean section. There are currently several types of IUDs, inert IUDs (Lippes loop) which are no longer used, and bio-active, copper, copper-silver or progestogen IUDs which are the most used because of their better tolerance.[1,3] It is one of the most widely used long-term contraceptive methods, particularly in developing countries. This method is widely used in our service. We perform this insertion within 10 minutes of the expulsion of the placenta, during a cesarean section or up to 48 hours after birth before leaving the maternity ward. For the interval IUD, it can be inserted any time after four weeks postpartum if the woman is not pregnant.[6] The mode of action of the IUD is at several levels.[7,9,10] At the level of the endometrium, it causes direct trauma to the endometrium and a non-specific inflammatory reaction. At the level of the cervical mucus, the IUD with progesterone can lead to a modification of the cervical mucus, rendered unsuitable for the passage of spermatozoa by modifying its quantity (decreased), its spinning (decreased), and its viscosity (increased).[8] In the fallopian tubes, there is a tubal motility disorder with an inflammatory alteration of the mucosa that can disrupt the transport of spermatozoa and blastocysts. In the spermatozoa copper and progesterone would have a cytotoxic action.[7,9] The insertion of the IUD is a simple medical act but not devoid of complications. Although infections and spontaneous expulsion of the IUD are frequent, uterine perforation followed by intraperitoneal migration of the IUD is a rare event with an incidence of between 0.4 and 6.7 per 1000 insertions.[10] It often occurs at the time of insertion; but it can go unnoticed and only be discovered secondarily.[1] In our patient, the notion of pelvic pain felt at the time of insertion of the IUD is suggestive of a perforation occurring at the time of insertion; IUD migration follows. Uterine hypoplasia, uterine retroversion, multiparity, scarred uterus and operator inexperience or clumsiness are risk factors for uterine perforation and intraperitoneal migration of the IUD.[1,3] Our patient was multiparous and had a scarred uterus whose last caesarean section dated back 40 days before the IUD was inserted. In our patient, the IUD became lodged in contact with the ovary. This intraovarian migration led to the formation of a hemorrhagic ovarian cyst. In fact, in addition to its mechanical and hormonal mechanism of action, the IUD induces endometrial inflammation, thus preventing implantation. The importance of inflammatory reactions leads to a significant accumulation of lysosomal lytic enzymes promoting endometrial destruction and

migration.[11] In contact with other organs, this inflammatory action of the IUD can lead to the destruction or even the perforation of the hollow organs or an inflammation of the tissues of organs such as the ovary or the appendix.[9-12] Golman and al reported a case of intraperitoneal IUD migration complicated by appendicitis in a 30-year-old patient.[12] The diagnosis of intraperitoneal migration of the IUD is suspected clinically and confirmed by radiology. Clinically, the symptomatology depends on the location of the migration and the type of IUD. In the literature, 85% of perforations were asymptomatic and incidental diagnosis.[1] But in some cases we can observe clinical signs such as fever, abdominal pain, diarrhea or urinary tract infections, but also the appearance of complications such as an occlusive syndrome, peritonitis by perforation of a hollow organ.[1] In our case, a copper cooper-type bioactive IUD embedded in the ovary caused an inflammatory reaction with the formation of a hemorrhagic cyst of the ovary only 11 days after insertion and was revealed by intense pelvic pain. Thus uterine perforation by IUD is usually asymptomatic; except when it is concomitant with the pose, resulting in violent pain, which must attract attention as was the case with our patient. On gynecological examination, the diagnosis of migration is suspected in the absence of visualization of the marker threads of the IUD at the level of the exo-cervix. The clinical diagnosis is not always obvious; it must appeal to complementary explorations to locate the IUD. Abdominal and then vaginal pelvic ultrasound is the first-line examination to confirm uterine migration by objectifying uterine vacuity. It also makes it possible to accurately show the ectopic position of the IUD.[13,14] Hysterography in the absence of pregnancy is the second-line examination when the IUD is not found intrauterine by ultrasound.[13,14] Computed tomography and MRI are the best radiological examinations for the management of this complication, but their costs and accessibility limit their use.[13,14] Therapeutically, the World Health Organization and the International Federation of Family Planning recommend the removal of the migratory IUD, even asymptomatic.[15] Removal of the migratory IUD by laparoscopy is the first-line method because it is less invasive and more practical.[14] Laparotomy should be performed in the event of failure of laparoscopy, digestive or vesico-uterine complications or in patients with a multi-scarred abdomen. In our case, the patient had a history of three caesarean sections, which constitutes a contraindication to laparoscopy due to parietal adhesions. Also, laparoscopy is not available in our service. From these facts the laparotomy was performed in our patient for the extraction of the migratory IUD.

CONCLUSION

Contraception by IUD is a simple, safe, effective, economical and reversible method of birth control. Its insertion is a simple medical act that requires a minimum of knowledge, experience and monitoring in order to avoid certain complications. Uterine perforation and intraovarian migration with formation of a hemorrhagic cyst is a rare but serious situation. Ultrasound is essential for diagnosis. Laparoscopy is the therapeutic method of first intention; however, laparotomy remains unavoidable in regions with limited resources.

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