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A CASE REPORT OF SPONTANEOUS DISLOCATION OF IUD INTO ABDOMINAL CAVITY

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ABSTRACT

Introduction: The intrauterine device (IUD) is the most widely used reversible female contraceptive method in the world today. The most common complications include, for example, gynecological infections, uterine bleeding, and dyspareunia. A rare and serious complication is IUD migration or uterine perforation. The main risk factors for IUD migration suggested are insertion by an inexperienced operator, extremely ante or retroverted uterus, insertion in the immediate postpartum period, or breastfeeding. Regarding treatment, laparoscopy offers a safe and easy surgical procedure to locate and remove the IUD. Discussion: The IUD is considered a practical, low-cost, and long-acting contraceptive method. However, it can generate complications for its users, even if rare. Among the complications, we have uterine perforation, as presented in the case. Uterine perforation is the most common cause of IUD loss and can occur both during insertion and after insertion of the device. The case presented also portrays the need for patient monitoring after implantation of the contraceptive method, through examinations such as transvaginal pelvic ultrasound. Conclusion: Uterine perforation and migration of the IUD to another region

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outside the uterine cavity occur most commonly during insertion of the device. A fast and effective treatment, performed through laparoscopy, would be possible in both asymptomatic and symptomatic patients, as this method has advantages such as less pain and better recovery time.

Keywords: Intrauterine device. Complications. Treatment.

INTRODUCTION

The intrauterine device (IUD) is the most widely used reversible female contraceptive method in the world today, and is the second most widely used method for family planning, after surgical sterilization (PAULO et al. 2019). According to some authors, the intrauterine device (IUD) containing levonorgestrel, known as Mirena, presents better results compared to those containing copper, in terms of the lower risk of complications, discontinuation of use, and ineffectiveness. Furthermore, the use of Mirena significantly reduces the rates of endometrial cancer, thus, it is used to prevent endometrial cancer in high-risk patients and is also a therapeutic option when there is an intention to preserve the patient's reproductive potential or in cases of surgical contraindication. The IUD has failure rates of less than 1 per 100 women and is considered a very effective method for birth control (PAULO et al. 2019). Despite being widely used, the IUD is not free of complications. The most common complications include gynecological infections, uterine bleeding, dyspareunia, irregular menstrual cycle, and excessive menstruation (MAKARY and RATHORE, 2021). A rare and serious complication of IUD insertion is IUD migration or uterine perforation (PAULO et al. 2019) (MORAES et al. 2015).

Uterine perforation, with the IUD exiting the uterine cavity and migrating to another region, is the most common cause of IUD loss and is associated with high morbidity and mortality (ARAGÃO et al. 2022). Uterine perforation rates are 0.3 to 2.6 per 1000 insertions for levonorgestrel-releasing intrauterine systems (LNG-IUS) and 0.3 to 2.2 for copper IUDs (LINHARES et al. 2021). Once in the abdominal cavity, the IUD can compromise several neighboring organs, such as the bladder, small intestine, sigmoid rectum, and vermiform appendix. Cases in which the IUD has moved from its initial position, traveled through one of the fallopian tubes, and lodged in a location other than a hollow organ have been rare.

This complication is mainly associated with iatrogenic perforation during insertion, uterine abnormalities, and/or normal peristaltic activity of the uterus. Perforations can occur during or after insertion. IUD loss usually occurs at the time of insertion and is detected during the first year in 90% of women (ARAGÃO et al. 2022). The main risk factors for IUD migration suggested are insertion by an inexperienced operator, extremely ante or retroverted uterus, insertion in the immediate postpartum period or breastfeeding, leading to damage to the uterine wall (PAULO et al. 2019) (MAKARY and RATHORE, 2021). Within the peritoneal cavity, the IUD can cause fibrosis formation, abdominal pain, infertility, intestinal obstruction, and perforation of neighboring organs.

Regarding clinical manifestations, the clinical presentation of uterine perforation is quite variable. It can present from asymptomatic to abdominal pain, abnormal bleeding,

fistula formation, bladder, and intestinal perforation (PAULO et al. 2019). Within the peritoneal cavity, the IUD can cause fibrosis, abdominal pain, infertility, intestinal obstruction, and perforation to neighboring organs, such as the bladder and rectosigmoid (COELHO et al. 2003) (MORAES et al. 2015). The symptoms will depend only on the location where the IUD is fixed (MORAES et al. 2015). However, there are reported cases in which there were no complications since the uterine cavity is directly connected to the peritoneal cavity, considering that each fallopian tube approaches the corresponding ovary, allowing the device to move due to this communication.

Regarding diagnosis, if the device's threads are not visible during the gynecological examination, ultrasound should be attempted to locate the IUD and pelvic radiography should only be used when ultrasound fails to locate the device (ARAGÃO et al. 2022). Transvaginal ultrasound (TVUS) has been considered the best method for diagnosing inadequacies in the IUD's position and should be indicated as a routine examination to prevent failures. However, it has been proposed that anamnesis and clinical examination are adequate for assessing the IUD's position, considering aspects such as a change in the uterine bleeding pattern and the onset of pelvic pain with an unusual pattern, regardless of the time of insertion, dispensing with the indication of routine TVUS for this purpose (LINHARES et al. 2021). Regarding treatment, laparoscopy offers a safe and easy surgical procedure to locate and remove the IUD (MORAES et al. 2015) (ARAGÃO et al. 2022), as it has the advantage of enabling analysis of the entire pelvic region, excluding possible associated injuries and also correcting probable perforations in adjacent organs (COELHO et al. 2003). The World Health Organization recommends that any IUD displaced within the abdomen be removed after uterine perforation associated with the IUD, even though some authors disagree with the removal of any displaced IUD, the high success rate of laparoscopic removal in asymptomatic/symptomatic patients makes this technique the most viable option (ARAGÃO et al. 2022). Patient recovery is usually excellent and fast, and the procedure can be performed on an outpatient basis with high levels of safety. For this reason, in cases of intra-abdominal IUD, laparoscopic removal of the IUD should be the first choice of therapy (MORAES et al. 2015). The patient's psychological issues should also be considered when choosing this approach, as it is a less invasive procedure. Furthermore, laparoscopy has the advantage of allowing adequate evaluation of the entire pelvic region to exclude associated lesions, including the site of uterine perforation (COELHO et al. 2003).

CASE DESCRIPTION

N.U.G, female, 34 years old, without comorbidities. She underwent videolaparoscopy to remove the Mirena IUD due to its displacement to the extrauterine portion, in the abdominal cavity (anterior uterine wall).

After 3 months of her first birth (12/20/2021), a cesarean section, the patient opted for the insertion of the Mirena IUD as a contraceptive method. In the postpartum period, she suffered from an infection, in which she had a lot of abdominal pain, fever, and accumulation of fluid in the region, which leaked through the cesarean section stitches, but after 40 days she recovered well, without further complications. After approximately 3 months of improvement, the device was inserted (03/22/2022).

The insertion of the IUD went as expected, being performed under anesthesia, and the patient reports not having felt any pain during or after the procedure. However, approximately 2 days after insertion, a routine transvaginal ultrasound was performed to confirm the positioning of the device, which detected its displacement outside the uterine cavity, presenting in the abdominal cavity. The pelvic endovaginal ultrasound study showed that the patient had a uterus in the midline, with regular contours and a homogeneous texture of the myometrium. The endometrium was also regular, with a thickness of 4.4 mm. Both ovaries had regular contours and preserved echotexture. The alteration was detected in the anterior isthmic wall, with an extrauterine portion, compatible with the perforation of the contraceptive device.

The patient was then referred for a simple abdominal radiographic study, which confirmed the suspicion and allowed for a more precise location of the IUD, which was positioned in the left iliac fossa region. Thus, the device was removed by video laparoscopy the day after the diagnosis. Reports no pain and good recovery.

Total abdominal radiography

Images provided by Dr. Fernando Pereira de Almeida, Hospital Santa Casa.

DISCUSSION

The IUD is considered a practical, low-cost, and long-acting contraceptive method. However, it can cause complications for its users, even if rare (PAULO et al. 2019). Among the complications, we have uterine perforation, as presented in the case above. The World Health Organization suggests that any IUD displaced into the abdominal cavity due to perforation caused by this method should be removed, due to the high success rate of the procedure using a surgical method, both in symptomatic and asymptomatic patients (MORAES et al. 2015).

Uterine perforation is the most common cause of IUD loss and can occur both during insertion and after insertion of the device. This loss usually occurs at the time of insertion, but displacement can also occur after the insertion procedure. However, there are rare cases in which it follows adjacent structures by the local anatomy without causing major damage. Migration is possible due to the anatomy of the fallopian tube, which approaches the corresponding ovary without connecting directly, allowing free access between the uterine and abdominal cavities (LINHARES et al. 2021). In the case of the patient portrayed, we cannot conclude the cause of the IUD's displacement into the abdominal cavity, but transmigration through the cesarean scar is a possibility (ARAGÃO et al. 2022).

The case presented also portrays the need for patient monitoring after implantation of the contraceptive method, through examinations such as transvaginal pelvic ultrasound. In the case reported above, uterine perforation was found after such examination, even without complaints from the patient. Thus, allowing an early diagnosis of the complication, as well as its treatment, avoiding future consequences.

On examination, a linear echogenic image was noted in the anterior isthmic uterine wall, with an extrauterine portion, compatible with a displaced contraceptive device, outside the usual topography. Providing the diagnostic impression of perforation of the anterior uterine wall by the contraceptive device. To confirm the diagnostic impression, a simple abdominal radiographic study was performed in which the intrauterine device was observed in the projection of the pelvic cavity, specifically in the left iliac fossa, as seen in the image below. The method used to remove the IUD from the cavity was video laparoscopy, which consists of a minimally invasive surgical technique and is most indicated with high levels of safety, using a small optical device that is inserted into the patient's abdomen through a small insertion, allowing advantages such as less pain and shorter recovery time (RODRIGUES et al. 2023).

METHODOLOGY

From a medical case that occurred at Santa Casa da Misericórdia de Presidente Prudente, together with its medical records, information was collected to prepare this case report. In addition, a search for information was carried out in databases.

CONCLUSION

It is concluded that uterine perforation and IUD migration to another region outside the uterine cavity, such as the abdominal cavity, occur most commonly during insertion of the device. Therefore, since it occurs mainly during insertion, performing a gynecological examination to visualize the device's threads or performing a transvaginal ultrasound after insertion to confirm its location would be of utmost importance, as they would aid in early diagnosis, avoiding further complications of the condition.

CONFLICT OF INTEREST

The authors agree that there was no conflict of interest in the course of this case report.

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