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Pain in the Lower Abdomen Revealing the Migration of an Intrauterine Device into the Intra-Peritoneal Space: A Case Report

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Abstract **Case Report**

The intrauterine device (IUD) is one of the most effective and widely used contraceptive methods worldwide. Perforation is rare after the insertion of an IUD, however, it is one of the most serious complications. We report the case of a 34-year-old patient who presented with left iliac fossa pain one month after the insertion of an IUD. Through this case report and in light of the literature review, we emphasize the importance of radiographic and ultrasound examinations in the diagnosis of this complication.

Keywords: IUD, CT scan, ultrasonography, abdominal X ray.

INTRODUCTION

The intrauterine device (IUD) serves as a highly effective contraceptive method, widely embraced across the globe. While generally considered safe, it is not without the risk of complications. However, certain complications may be encountered after the insertion of an IUD, such as bleeding, pain, infections, expulsions, and perforations [1].

Perforation is one of the rarest and most serious complications, which can result in the migration of the IUD into various neighboring organs. Migrations have been described in the cul-de-sac of Douglas, the omentum, the mesentery, the colon, and the bladder [2, 3].

Medical imaging is valuable for the diagnosis of these complications. In this case, we present the radiographic and ultrasound aspects of a tubal migration of a copper T intrauterine device (IUD) [3].

OBSERVATION

Mrs. S.B., a 34-year-old woman with no specific medical history, gravida 3, para 3, underwent the placement of an intrauterine device (IUD) one month ago.

She presented one month after the IUD placement with left iliac fossa pain. An infectious workup returned negative results. An abdominal-pelvic ultrasound revealed a horizontal hyperechoic structure measuring 4 cm, visible in the hypogastrium para-vesically, resembling the appearance of an IUD. The uterus appeared normal in size, anteverted, and the adnexa showed a normal appearance. An abdominal X-ray without contrast highlighted a horizontally oriented radio-opaque structure projecting para-vesically on the left side. Further evaluation with an abdominal-pelvic CT scan demonstrated an anteverted and anteflexed uterus without detectable intracavitary material. A metallic-density T-shaped object was identified laterally to the left of the bladder, accompanied by a few air bubbles and infiltration of pelvic fat without detectable pelvic effusion.

The patient underwent exploratory laparoscopy, revealing the intrauterine device in the epiploic cavity para-vesically on the left side. It was successfully removed without incident.

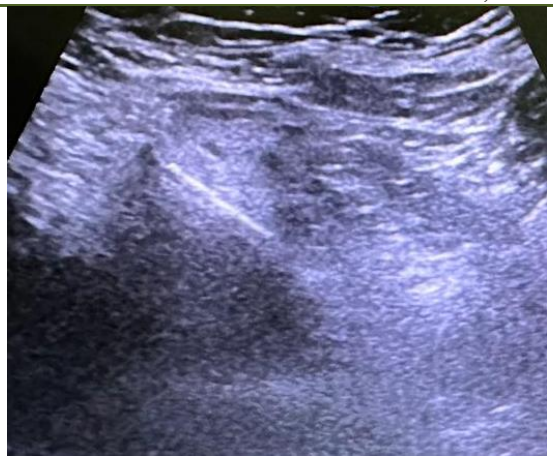

Figure 1: An abdominal-pelvic ultrasound revealed a horizontal hyperechoic structure measuring 4 cm, visible in the hypogastrium, para-vesically

Figure 2: An abdominal X-ray without contrast demonstrated a horizontally oriented radio-opaque structure projecting para-vesically on the left side

Figure 3 (A, B, C): Abdominopelvic CT scan in axial, coronal, and sagittal, sections revealed a T-shaped metallic-density object visible laterally to the left of the bladder, along with the identification of some air bubbles in the vicinity

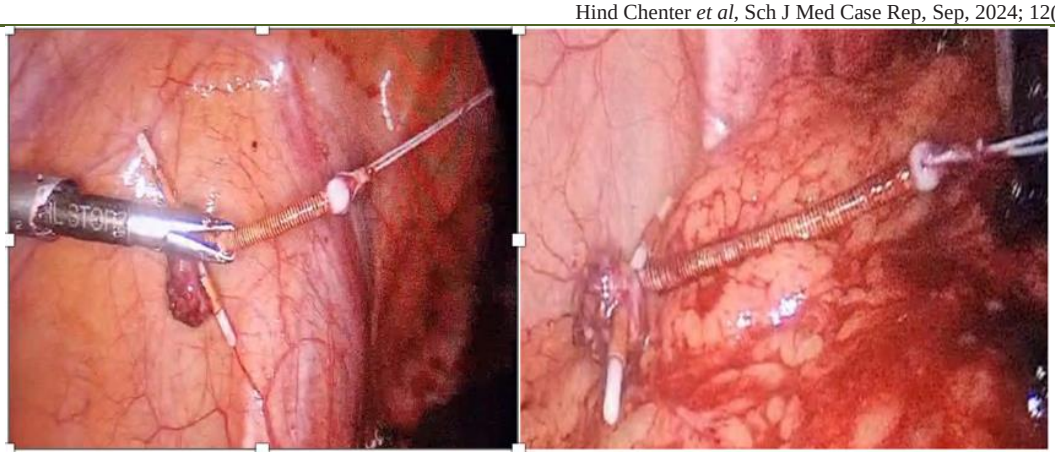

Figure 4: Surgical image revealing the presence of the intra-peritoneal intrauterine device (IUD)

DISCUSSION

The intrauterine device (IUD) is a reversible and effective contraceptive method, but not without complications [1].

The incidence of perforation is rare, not exceeding 1.3 per 1000 insertions. Perforations can be partial, where only a portion of the intrauterine device (IUD) breaches the uterine wall or cervix, or complete, when the IUD traverses the uterine wall to enter the abdominal cavity. It most commonly occurs during insertion, but it may go unnoticed and only be discovered later [1-3].

Uterine perforations associated with intrauterine devices (IUDs) are often influenced by factors such as post-abortion, postpartum, multiparity, a history of uterine scarring, uterine malpositions, and the operator's lack of experience or clumsiness [4, 5].

Clinically, the symptoms vary depending on the location of the migration and the type of intrauterine device (IUD), In our case, the patient experienced pain in the right iliac fossa without associated signs of infection. Other clinical signs that may be present include symptoms such as fever, abdominal pain, diarrhea, or urinary infections. Additionally, complications may manifest as conditions such as bowel obstruction or peritonitis due to the perforation of a hollow organ [1].

The absence of thread detection during the clinical examination does not allow for an accurate assessment of the IUD's location, as observed in our patient. Therefore, the performance of radiological exploration is essential.

Medical imaging techniques aid in the detection, precise localization of the IUD, as well as the assessment of the presence of signs of severity.

The abdominal X-ray without preparation highlights the radio-opaque image corresponding to the IUD on the film but cannot determine its intrauterine or extrauterine position. A pelvic ultrasound is necessary for further evaluation [5].

Transabdominal ultrasound and abdominopelvic computed tomography (CT) represent crucial steps in the diagnosis. They allow visualization of the uterine cavity and determination of the precise location of the IUD migration. Especially in the case of secondary displacement into digestive or omental structures [1, 5].

It is recommended to remove the ectopic IUD due to the risks of adhesion and inflammation that can lead to peritonitis and intestinal perforation .However Laparoscopy is the most suitable method for the removal of the ectopic IUD [6-8].

In our case, laparoscopy was performed, revealing an IUD embedded in the omentum at the left para-vesical region. It was successfully removed without incident after detachment from the omentum.

CONCLUSION

The intrauterine device (IUD) is a widely used contraceptive method, not without complications. Migration due to complications is a rare but serious occurrence. Medical imaging techniques, such as CT scan, ultrasound and X-ray without contrast, enable the monitoring of the IUD's location and also contribute to identifying its position in cases of migration.

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