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Foreign Body in the Fallopian Tube – Case Report

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Abstract
Background
Foreign bodies in the female pelvic cavity are rare cases that demand expert imaging skills to interpret and evaluate the correct anatomic location, shape and consistency. More often than not these foreign bodies have transmigrated from the utero-vaginal cavity. After literature research we have found several instances of contraceptive devices, tubal ligation clips, intrauterine devices, vaginal rings, etc. However, the traumatic, extracorporeal and intestinal perforation origin should not be overlooked.
Case presentation
The 59-year-old female patient presents to the surgical consult clinic with the complaints of pelvic region pain for over three months. After several other specialties consults a radio-opaque foreign body was found in the pelvic cavity on a pelvic x-ray. The patient refers that during an MRI examination the machine had an emergency stop. According to the technician this could happen when a ferro-magnetic body is encountered. She denies having inserted any intrauterine device, nor other gynaecologic procedures. Also, she denies having knowingly ingested any foreign bony or metallic body. We suggested a CT scan, which shows a dense, fragmented foreign body of an approximate 4cm length in the intraperitoneal pelvic cavity, in close contact to the fallopian tube. After a median inferior laparotomy. This bipartite, rusty, metallic foreign body had perforated the fallopian tube and was partially intraperitoneally enveloped by the greater omentum. We proceeded with the foreign body extirpation and a cuneiform oophorectomy of the same side due to an ovarian cyst. The patient had a full recovery.
Discussion
In our literature review we have found only a small number of instances of intraperitoneal foreign bodies of unknown origin. Our patient denied having ingested metallic or bony materials, also denied any gynaecologic procedures or having inserted intrauterine devices. Transmigration of metallic uterine devices is a well-known fact. Thus, patient history does not offer much information on this case. Imaging studies and an expert evaluation of the foreign body location was a determinant factor for the surgical treatment strategy.
Conclusion
Due to the rarity of such cases of non-ingested intraperitoneal foreign bodies, this patient presented a diagnostic and therapeutic dilemma. After verifying the presence of the opaque body in the pelvic cavity, in close relationship to the Fallopian tube, an open surgical approach was concluded to be the most feasible option, taking in consideration the possibility of intestinal integrity compromise.
Keywords: General Surgery, Foreign Body, Fallopian Tube, Intraperitoneal, Perforation.
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1. Introduction

Intra-abdominal foreign bodies are a known cause of persistent abdominal pain. However, depending on its origin symptoms and general presentation may vary.

Ingested foreign bodies perforate the gastro-intestinal tract and have a more dramatic presentation, with signs of peritonitis. Impalement injuries also have a similar presentation, with a clear cause and easier diagnosis.

Non-ingested foreign bodies may transmigrate via the gynaecologic pathway or may occur after surgical procedures. Instruments, gauze-pads or needles are known to have been found after surgical interventions.

Vaginal rings, vaginal tampons, intrauterine devices, tubal ligation clips, contraceptive coils and various other objects have been found in the female pelvis.

Familiarization with the distinct shapes and features of these devices may be crucial in the radiologic identification of these objects and the underlying pathology.

2. Case presentation

2.1 History of present illness

Our patient is a 59 years old female with the following medical history and presentation:

The female patient presents to the surgical consult clinic with the complaint of persistent pelvic pain for over three months. After seeing different specialists, she has an abdominal radiograph showing an opaque foreign body in the pelvic region. She attempted to perform an MRI examination, but the machine had a fault alarm and an emergency stop. According to the technician present, it could happen when a metallic body is encountered.

We decide to perform an abdomino-pelvic CT, which shows a 4cm, dense, fragmented foreign body in the intra-abdominal pelvic cavity, with close relationship to the Fallopian tube.

Figure 1. 3D rendering of the abdominal CT showing a dense fragmented body in the pelvis.

The patient denies having ingested metallic or bony objects. She denies having performed any invasive gynaecologic procedures or implanting any intrauterine devices.

Due to the unknown origin of this body, also taking in consideration the risk of a possible intestinal or colon perforation, we decide for an open surgical approach.

2.2 Details of the surgical procedure

The procedure begins with a general endotracheal anaesthesia. An inferior median laparotomy is made.
Upon entering the peritoneal cavity, we find the greater omentum adhered to the right Fallopian tube.

After liberating the omental plug, we find a rusty metallic object that had perforated the Fallopian tube and was partially inside the peritoneal cavity.

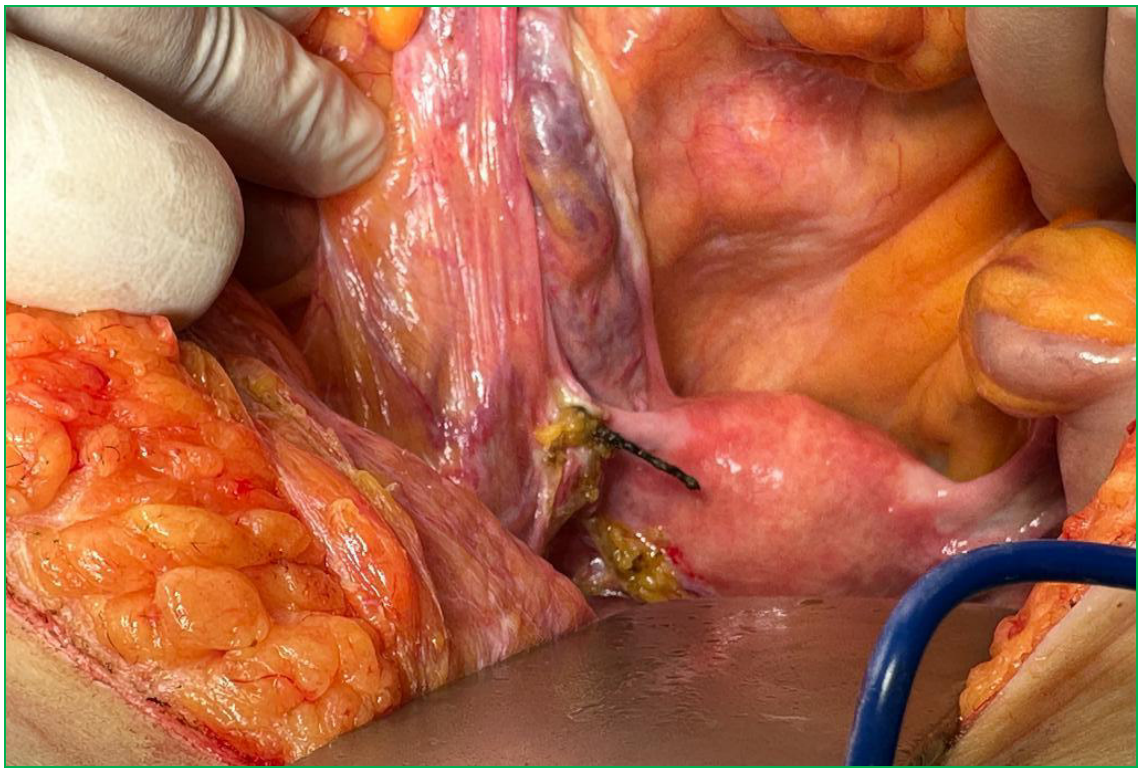

Figure 2. Partially intraperitoneal rusty foreign body perforating the right Fallopian tube.

After ejecting the first fragment, we find the second part inside the tube. The right ovary had a cystic appearance. We proceed with the foreign body extirpation and a cuneiform oophorectomy.

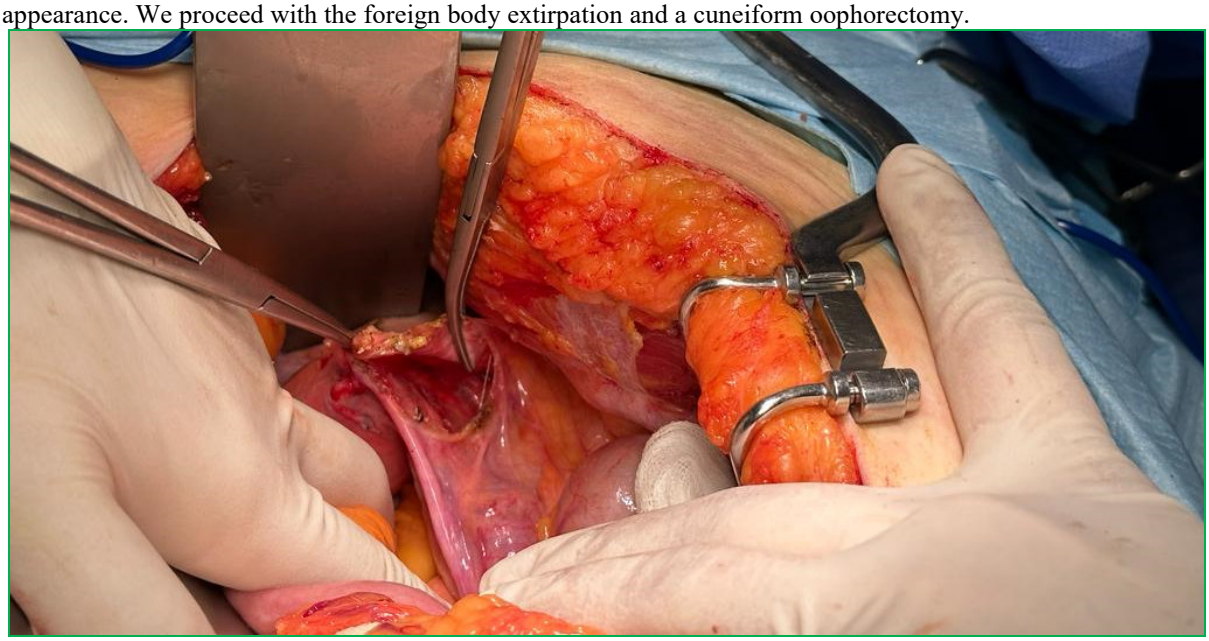

Figure 3. Dissection of the meso-salpings.

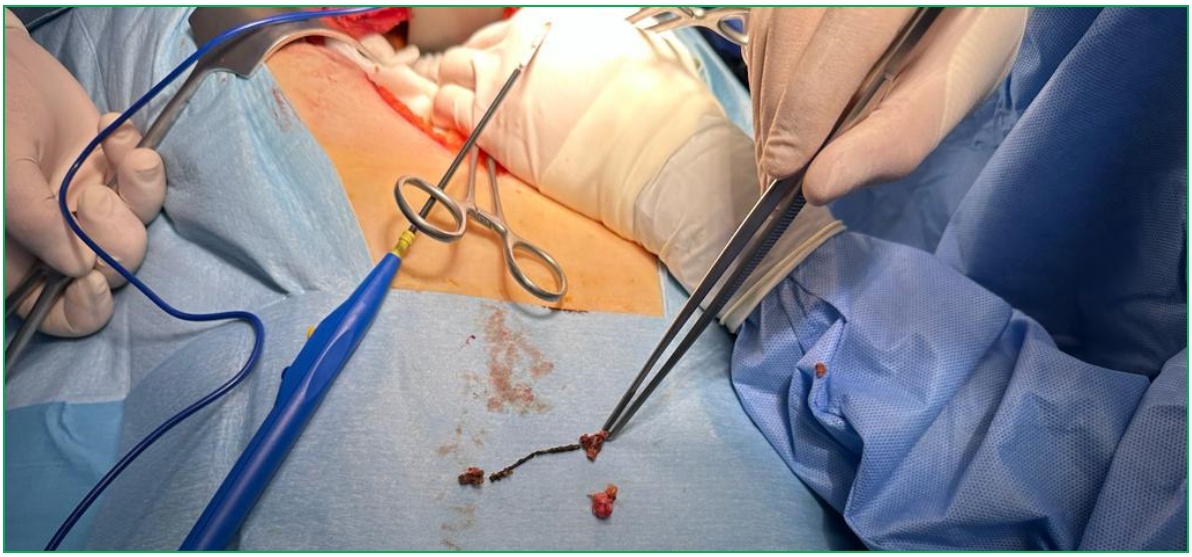

Figure 4. Foreign bodies retrieved, with a nail-like appearance.

Other organs were macroscopically normal, with no signs of perforation of the GI tract.

The procedure ends with lavage and drainage and the closure of abdominal cavity.

Figure 5. Fragmented metallic rusty foreign body.

2.3 Post-operative period

The patient tolerated the procedure well, with uneventful post-operative course. She was discharged in good health in the 3rd day after surgery.

3. Discussion

In our literature review we have found only a small number of instances of intraperitoneal foreign bodies of unknown origin. Our patient denied having ingested metallic or bony materials, also denied any gynaecologic procedures or having inserted intrauterine devices. Transmigration of metallic uterine devices is a well-known fact. Thus, patient history does not offer much information on this case. Imaging studies and an expert evaluation of the foreign body location was a determinant factor for the surgical treatment strategy.

During the consultation of this particular case, we were made aware of the fact of the presence of an opaque foreign body in the pelvic cavity. Despite our patient denying any history of ingestion or gynaecological procedure we did not rule out the possibility of intestinal perforation due to accidental ingestion.

We concluded that this foreign body may be a reasonable cause for persistent lower abdominal pain, thus it had to be retrieved surgically. Before deciding the surgical approach, the correct anatomical position and regional relationships had to be determined via computed tomography.

4. Conclusion

Due to the rarity of such cases of non-ingested intraperitoneal foreign bodies, this patient presented a diagnostic and therapeutic dilemma. After verifying the presence of the opaque body in the pelvic cavity, in close relationship to the Fallopian tube, an open surgical approach was concluded to be the most feasible option, taking in consideration the possibility of intestinal integrity compromise.

Intra-abdominal foreign bodies are a known cause of persistent abdominal pain. However, depending on its origin symptoms and general presentation may vary.

Non-ingested foreign bodies may transmigrate via the gynaecologic pathway or may occur after surgical procedures. Instruments, gauze-pads or needles are known to have been found after surgical interventions.

Familiarization with the distinct shapes and features of these devices and other foreign bodies may be crucial in the radiologic identification of these objects and the underlying pathology.

Patient collaboration and consent, expert imaging opinion and correct surgical approach are key factors in the effective treatment of non-ingested intra-abdominal foreign bodies.

Conflict of interest

The author(s) declare(s) that there is no conflict of interest. The authors alone are responsible for the content and writing of the paper.

Financial disclosure

There is no financial support to this study.

Ethical aspect

Informed consent was obtained from all participants in the study and all procedures were conducted in accordance with the Declaration of Helsinki.

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