

# Laparoscopic Removal of an Intra Abdominal Needle: Case Report and Review of the Literature

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## Abstract

Abdominal foreign bodies may cause severe complications such as infections, injury of an organ and perforation: There are not enough data for clear recommendations as to how such foreign bodies should be treated, if at all. We describe here a case of a needle found and removed laparoscopically in the abdominal cavity of a young healthy male. Review of the literature disclosed many anecdotal reports of foreign bodies that caused various complications, but currently no evidence based policy can be recommended. The rationale for treating abdominal foreign bodies is discussed.

**Keywords:** Foreign Body; Laparoscopy; Foreign body complications

## Introduction

Abdominal foreign bodies may be found either incidentally or in the search for the cause of abdominal symptoms. The real prevalence of asymptomatic abdominal foreign bodies is not known. In a rare study, Ahn et al looked at abdominal plain X-rays and CT's of 871 patients referred to the emergency room for abdominal pain. They found foreign bodies in 8 (1%) of the patients [1]. Most other reports about abdominal foreign bodies are anecdotal. There are no studies on the prevalence and natural history of foreign bodies in a cohort of an asymptomatic population. Thus the actual prevalence and natural history of the problem remains unknown. Numerous foreign objects have been found in the abdomen. Some are related to previous medical procedures, such as retained surgical instruments, migrating medical objects such as IUD [2,3], stents [4], catheters [5], pace makers [6,7] or surgical clips [8].

Other metallic objects include swallowed coins [9] or needles [10,11] and gunshot bullets. Non metallic objects have also been described, most commonly forgotten surgical gauzes, also known as gossypibomas [12,13]. Bones [14], pencils [15] and even a bottle cap [16] have been described. Symptoms of an abdominal foreign body vary with the nature and location of the object. Some, such as bullets or retained bomb particles, may stay in the body for many years without causing any symptoms. This can often be seen in people who were injured in battle. Sharp metal objects are of more concern as they may migrate to other organs and cause complications including perforations. A gossypiboma may be the cause of infection, foreign body reaction and even perforation. We

describe a case of a needle which was found in the abdomen of a healthy young male and was probably swallowed 20 years earlier.

## Case Presentation

A 32 years old healthy male presented to the gastroenterology clinic because of abdominal pain. The pain was sharp, of short duration, and was induced by certain movements or postures, like bending forward. He described the pain as "a needle prick". Plain abdominal X-ray indeed showed a needle, almost 4 centimeters long, in the upper abdomen slightly left to the midline. Gastroscopy was normal. Barium swallow showed that the needle was outside the intestinal tract, extending towards the third part of the duodenum. Endoscopic ultrasound confirmed the finding. CT showed a long thin metallic object, beneath the pancreas, close to the superior mesenteric artery, in the peritoneal fat outside the wall of the intestinal tract.

The patient could not recall how the needle got there, but his mother remembered that when he was 9 years old he had a toy that contained such needles and it was assumed that he may have swallowed a needle at that time. We assumed that the needle migrated slowly to the present location. The proximity of the needle to major blood vessels raised a concern that it might continue to migrate into a blood vessel and it was therefore decided to have it removed. Under general anesthesia a 10mm optic fiber was inserted into the abdomen at an angle of 35°. Exploration with the fiber could not locate the foreign body and a plain abdominal film was

taken. The needle was identified along the mesocolon which was then dissected. The area was marked by metal clips and another abdominal film was taken. The needle was identified under the third part of the duodenum laterally to the superior mesenteric artery, but almost touching it. The optic fiber was gradually progressed towards the needle which was exposed by careful dissection and removed.

## Discussion

Abdominal foreign bodies usually come to clinical attention only if they cause a complication. The true incidence of asymptomatic abdominal foreign bodies is therefore unknown and may be higher than estimated. When an asymptomatic or minimally symptomatic abdominal foreign body is found, the question arises whether the risk of a future complication justifies intervention and removal of the object. Certain foreign objects, such as gossypibomas, result in a complication so frequently that they certainly justify intervention. Gossypibomas have been reported to become infected, migrate [13], behave like a pseudo tumor [12] and even cause perforations. Therefore the consensus is that they should be removed. Sharp metal objects are also likely to cause complications. Such objects have been reported to migrate, cause abdominal symptoms, infections [8] and also perforations [17].

Blunt metal objects, such as bullets or metal parts have been observed to stay in the body for long periods of time without causing any complications. This has been reported in people who were wounded in a blast or by a gun shot. However, even such relatively benign foreign objects may cause complications including lead toxicity [18]. Other metal objects described to cause complications are retained surgical instruments [19]. Even round blunt metal objects, such as coins have been reported to cause perforations [20]. In our case the patient had very mild symptoms: slight abdominal pain mainly induced by body movements. However, the object was a sharp metallic one which had most probably migrated during the years and was in very close proximity to a major blood vessel. We therefore decided that the risk of leaving the foreign body in place outweighs the risk of removing it. The needle was removed successfully by laparoscopy and one year after the operation the patient feels well, and is pain free.

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