Laparoscopic Retrieval of Ingested Foreign Body

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Received: 26 August 2019
Accepted: 10 April 2020

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DOI 10.5001/omj.2021.35

Abstract

Foreign body ingestion is one of the most common presenting complaints in the emergency room. Psychiatric patients present with the unusual ingested object are frequently associated with the intention of suicide; Especially with a history of recurrent foreign body ingestion. Radiographic films help in locating the site and predicting the complications. The best method of object retrieval is dependent on many factors and decision made for the best of patient safety to minimize expected complications. This is a case report of patient present with unusual foreign body ingestion.

Keywords: Foreign body.

Introduction

Accidental foreign body ingestion is more frequently seen in pediatric age group, where the incidence in most of the time is self-reported or witnessed. However, intentional ingestion was reported in 85% of cases related to adults with psychiatric illness and 84% occurred in patients who had recurrent ingestions. Patients with poorly controlled psychiatric condition are more susceptible of repeated incidence of
deliberating self-harm and suicidal attempts.\(^3\) The management of those patients is a challenge and requires multidisciplinary approach in order to treat and prevent further incidences.\(^4\)

Multiple factors affect the method of intervention for the foreign body ingestion such as location, nature (sharp versus blunt) and size of the ingested material. However, if it causes complications like perforations and affects the hemodynamic stability of the patients then more invasive intervention will be necessary. Endoscopic retrieval of foreign body is the most common method used with a success rate up to 50\%.\(^5\)

Surgical intervention is indicated in cases with failed endoscopy. Laparotomy is the conventional used method; However, laparoscopic retrieval is a new promising era with more trained hands for laparoscopic approach.\(^6\)

**Case Report**

A 15 years old female, a known case of schizophrenia and mental retardation, with a good functional capacity, presented to the emergency department with a history of foreign body ingestion. She ingested a knife without its handle, with the intention of suicide. She had a previous history of ingesting a metal object. She was asymptomatic and generally well. There were no abdominal, or chest pain, with no nausea or vomiting, and no signs of bleeding. Her vitals were within normal and she was not in distress. The abdomen was soft, not tender. Fluoroscope was done and it showed a sharp knife with 12 cm long in the stomach (Figure 1). Diagnostic laparoscopy was performed, and showed normal abdominal viscera with no signs of perforation and no collection. Small bowel run was done and no perforation or foreign body were observed. The stomach was assessed carefully. It was distended, and after manipulation, a sharp object was pointing to the greater curvature. Small gastrostomy
opining performed in the antrum and the sharp object was retrieved carefully and laid above the liver then retrieved out through the umbilical port gently (Figure 2). No injuries to detected in the surrounding structures and bowel. The nasogastric tube passed to the stomach and laparoscopic closure of the gastrostomy was done. Methylene blue was used to assess any probable leak through the NGT. A drain inserted through 5 mm port and kept in the subhepatic area. Postoperatively, The patient remained hemodynamically and vitally normal and transferred to the psychiatric hospital in day three postoperative to be admitted because of the high risk of suicidal ideation and poor insight.

**Figure 1:** fluoroscopy shows a sharp blunt object in the upper abdomen

**Figure 2:** blunt sharp knife measure 12 cm
Discussion

Unusual and strange foreign body ingestion is more common in patients with psychiatric illness. Deliberate self-harm behavior is common in patients with severe personality disorders, post-traumatic stress disorder, and some psychotic disorders. The intention of suicide is one of the reasons for this action; As a result, they can present late with complications like chocking, obstruction or with symptoms suggest perforation such as fever, tachycardia and severe abdominal or chest pain radiating to the back. Investigations to locate and confirm the presence of a foreign body is essential. Plane radiograph with two views can demonstrate the location. On the other hand, contrast study is essential in non-opaque structures. Foreign body impacted in the esophagus can be identified if the distance increased between the cervical vertebra and the larynges and the trachea or presence of air in the cervical vertebra. Presenting symptoms are the best indicator of the site of impaction and for the decision of the appropriate approach in term of the urgency and the method of retrieval. Spontaneous passage of the foreign body is observed in most of the cases especially in blunt small objects. Endoscopic removal indicated in 10% to 20% of the patients whereas surgical removal is indicated in 1% of the patients. A flexible endoscope can be used to diagnose and treat foreign bodies’ ingestion with a success rate of greater than 95%. However, Endoscopic retrieval for sharp and long objects is carrying a high challenge because of the increased risk of complication like esophageal perforation which can be fatal so surgery considers being a safer method for the patient. Furthermore, surgical intervention like exploratory laparotomy is considered to be an option especially in case of perforation and unsuccessful endoscopic recovery or when the foreign body is impacted and remained in the body.
for a week or more. After the extraction of the foreign body, post procedure observation is indicated to assess the patient for signs and symptoms of perforation. Patients who ingested foreign body with the intention of suicidal should be shifted to the psychiatric ward for observation and further management.

Conclusion
Clinical presentation and the characteristic of the foreign body are the key factors to determine the appropriate approach to avoid any possible complications.
Laparoscopic retrieval considered a safe option in long sharp foreign body ingestion cases.
Multidisciplinary management is essential in psychiatric patients presenting with recurrent foreign body ingestion.

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