CASE REPORT

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Management of Duodeneal Perforation Due to Toothpick Ingestion

Kürdan Yutulmasına Bağlı Gelişen Duedonal Perforasyon Yönetimi

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ÖZ

Yabancı cisimlerin yutulması, gastrointestinal sistemde ciddi morbidite ve mortalitenin önde gelen nedenlerinden biridir. 47 yaşında erkek hasta iki gündür olan karın ağrısı şikayeti ile acil servise başvurdu. Hastanın fizik muayenesinde peritoneal irritasyon belirtisi görülmedi; sadece sağ üst kadranda ve yan tarafta hassasiyet gözlendi. Bilgisayarlı tomografi incelemesinde duodenumun üçüncü bölümünü perfore eden ve retroperitoneal yapılara uzanan yabancı cisim görüldü. Karın muayenesi normal, vital bulguları stabil olan hastada yabancı cismin çıkarılması için yarı elektif laparotomi kararı alındı. Duedonumun üçüncü kıtanın perfore olan bölgesi onarıldı ve omentopeksi uygulandı. Hasta postoperatif 6. gün başarıyla taburcu edildi.

Anahtar Kelimeler: duedonal perforasyon; kürdan; yabancı cisim yutulması

ABSTRACT

The ingestion of foreign bodies is one of the leading causes of severe morbidity and mortality in the gastrointestinal tract. A male patient, 47 years old, presented to the emergency department with two days of abdominal pain. The patient's physical examination revealed no indications of peritoneal irritation; only tenderness in the right upper quadran and flank was observed. A computed tomography examination revealed a foreign body that had perforated the third portion of the duodenum and extended into the retroperitoneal structures.
A semi-elective laparotomy had been determined to remove the foreign object from the patient whose abdominal examination was normal and whose vital signs were stable.
The third perforated region of the duedonum was repaired and omentopexy was performed. Six days after surgery, the patient was successfully discharged .

Keywords: duodenal perforation; toothpick; foreign body ingestion

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INTRODUCTION

An estimated 1500 deaths are caused by ingesting foreign bodies each year in the USA. This is a serious source of morbidity and mortality.[1] Although gastrointestinal foreign body ingestion is more common, duodenal foreign bodies are three times more likely to cause complications.[2-3]

A diagnosis must be made in order to properly treat a gastrointestinal foreign body. The majority of patients, however, do not take precautions when digesting foreign bodies. When selecting an endoscopic or surgical approach, both acute and chronic disorders as well as the characteristics of the object are taken into consideration.[4]

CASE REPORT

A 47-year-old male patient with coronary artery disease and no behavioral disorder was presented to the emergency room with a two-day complaint of abdominal pain. Vomiting and diarrhea were not reported by the patient. The patient did not mention any recent foreign body intake during his anamnesis.

He was conscious and his vital signs were stable; his right flank and upper quadrant were tender on physical examination.

There was no distention, no tenderness at the costovertebral angle, and normal bowel movements. In his laboratory, leukocytosis was the only observation. Urinalysis showed no hematuria.

An impacted body intimately connected to the renal capsule and third part of the duodenum was identified by computed tomography (Figure 1-2).

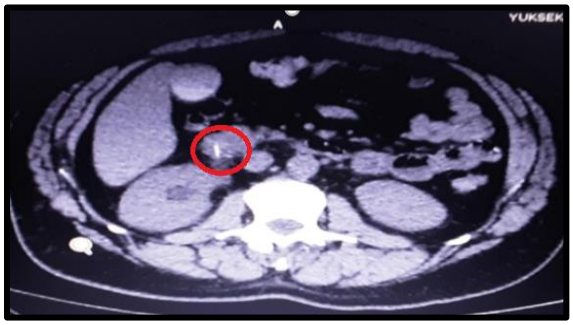

Figure 1. CT image. The foreign body appears in the 3rd part of the duodenum.

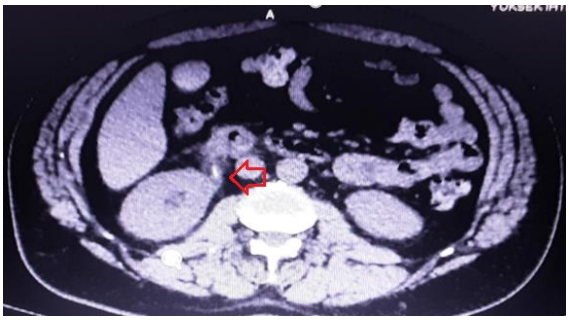

Figure 2. CT image. Relationship of the foreign body with the retroperitoneum

The patient was admitted to the service after obtaining written consent from the patient for the use of the data in academic publications and for further examination and treatment. The endoscopic method was not chosen due to the location of the foreign body and its proximity to anatomical structures.

Semi-elective laparotomy was chosen as the procedure of preferred rather than an emergency procedure because the patient demonstrated no symptoms of peritoneal irritation (acute abdomen) and his vital signs were stable.

The urologist and the anesthesia clinic examined the patient before to surgery; they did not offer any other advice besides blood preparation.

After mobilization of the duodenum with the Kocher maneuver, it was observed that a 2.5 cm wooden toothpick fragment extended from the third part of the duodenum to the renal capsule and hilum in the patient who underwent a semi-elective laparotomy.

The retroperitoneal structures showed no defects. The foreign body was removed, and the defect was primarily repaired in the continuation omentopexy was performed (Figure 3-4).

Figure 3. During laparatomy, A toothpick is visible in the indicated location.

Figure 4. Foreign body image

The patient was successfully discharged on the sixth postoperative day after starting oral intake on the third postoperative day.

DISCUSSION

Around 80–90% of foreign objects pass through the digestive system without any difficulty. Duodenal foreign bodies are less common than other gastrointestinal foreign bodies but are three times more likely to cause complications.[1-3]

Toothpicks account for approximately nine percent of all foreign bodies that penetrate the digestive tract. However, the duodenum has a rate of twenty-five percent, making toothpicks the most a risk foreign body for this organ. The duodenum has a steep anatomical curve, which is considered to be the root of this issue.[5]

Diagnosis of gastrointestinal foreign bodies is essential for successful treatment.[4] The patient's symptoms, anamnesis, clinical findings, and imaging all contribute to the diagnosis. The patient may suffer from a variety of symptoms, including chest pain, hematemesis, cough, and abdominal pain. Other common complaints include difficulty swallowing.[1] Additionally, our patient did not mention having recently ingested any foreign objects. He claimed that, although it is unclear, he may have swallowed a foreign body while eating meat three years ago. The diagnosis was mainly based on the patient's radiological findings.

Acute or chronic duodenal foreign bodies may be detected. If the anamnesis is certain, those who are in the acute stage can be removed endoscopically. Pancreatitis, cholecystitis, or an abscess may be seen in those in the chronic stage.[2-4]

Endoscopic treatment methods may be unsuccessful because of the distal duodenal position, a possible perforation, and a risk of bleeding. Surgery is the primary way of treatment for intraduodenal foreign bodies in terms of evaluation of surrounding organs and control of potential consequences.[3] Because of the characteristics of the foreign body and its proximity to anatomical organs in our situation, open surgery was preferred.

The literature currently demonstrates a wide range of approaches. Both R. Nigri et al. in an adult patient and Ragazzi et al. in a young patient successfully removed the duodenal toothpick endoscopically.[5]

There are many different symptoms and signs associated with gastrointestinal foreign bodies, and the history is critical. The patient's history can be very long and complex.[6] The treatment strategy is determined based on the object's qualities, its proximity to the anatomical structures, and whether it is in the acute or chronic phase.[2]

Conflict of Interests

The authors declare that there is not any conflict of interest regarding the publication of this manuscript.

Ethics Committee Permission

After obtaining written consent from the patient for the use of the data in academic publications and further examination and treatment, the patient was admitted to the service.

Authors' Contributions

Concept/Design: SA. Data Collection and Processing: OFA. Data analysis and interpretation: OFA. Literature Search: OFA. Drafting manuscript: OFA. Criticalrevision of the manuscript: SA. Supervision: SA.

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