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Liver abscess secondary to the migration of a wooden skewer swallowed unintentionally: A case report

Emel Ozveri, Eser Vardareli, Ozdal Ersoy, Metin Ertem, Nurdan Tozun

ABSTRACT

Introduction: The ingestion of a foreign body into the gastrointestinal tract is not uncommon. However, the development of a hepatic abscess secondary to a foreign body perforation is extremely rare. Preoperative diagnosis is difficult as patients are often unaware of the foreign body ingestion. We report hereby an unusual case of a hepatic abscess caused by wooden skewer penetration of duodenal bulb, resulting in localized peritonitis.
Case Report: A 45-year-old male was admitted to our hospital with high grade fever which rapidly progressed to clinical sepsis. The patient needed to take some antipyretics for low-grade fever for past month. Abdominal computed tomography (CT) scan showed a liver abscess of 8 cm located in the left lobe of liver. No foreign body was identified at preoperative imaging. He underwent laparotomy. A liver abscess resulting from perforation and intrahepatic migration of a wooden skewer coming from the duodenum was diagnosed by surgery. The liver abscess and sepsis were controlled successfully with surgery and antibiotics.
Conclusion: Surgery plays still a major role in the diagnosis and treatment of hepatic abscess caused by migrating foreign bodies in the gastrointestinal (GI) tract although ultrasonography (USG) and CT scan may detect the aetiological factor preoperatively in some cases. This unusual condition and the rarely ingested foreign body (wooden skewer) must be kept in mind when dealing with cases of hepatic abscess, or even sepsis of unknown origin.

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Keywords: Foreign body, Gastrointestinal perforation, Liver abscess, Wooden skewer

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INTRODUCTION

Gastrointestinal perforation following the ingestion of a foreign body has been reported to occur in less than 1% patients and is usually caused by a material with sharp pointed ends, such as toothpicks, sewing needles, dental plates, fish bones, chicken bones or rosemary twig [1–8]. Gastrointestinal perforation by a swallowed blunt-ended foreign body with subsequent migration to the liver is even more rare [9]. There are many case reports of hepatic abscess caused by migration of an ingested foreign body, however, to the best of our knowledge, there has been no report of hepatic abscess caused by migration of an

ingested wooden skewer in English literature so far. We report a case of duodenal perforation caused by a blunt-ended wooden skewer, resulting in hepatic abscess formation

CASE REPORT

A 44-year-old male was admitted to our hospital with high fever. There was no remarkable past medical history. The patient had received antibiotic treatment for his fever of unknown origin for past month. On admission, physical examination revealed a pale, hypothermic patient with tachycardia (pulse 140 beats/min). He was transferred to the intensive care unit because his toxic appearance and his vital signs had progressively worsened. His abdomen was tense with tenderness in the right hypochondrium without any sign of peritoneal irritation. Laboratory investigations revealed leukocytosis (54000/mm^3), elevated C-reactive protein 25 mg/dL (normal value <0.5 mg/dL), aspartate aminotransferase and alanine aminotransferase 102 and 162 U/L (normal value <40 U/L), gamma-glutamyl transpeptidase 417 U/L (normal value <50 U/L), and alkaline phosphatase 415 U/L (normal value <130 U/L). Ultrasoundsonography test (USG) examination of the abdomen revealed a hypoechoic lesion in the left lobe of the liver containing both gas and fluid. Contrast- enhanced computed tomography scan showed a large collection, measuring approximately 7.5x8 cm, consistent with intrahepatic abscess at the left liver lobe (Figure 1A–B). Antibiotherapy was initiated with cefotaxime and metronidazole and the patient underwent an exploratory laparotomy, which revealed a hepatic abscess caused by a foreign body. Hepatic abscess was drained and 5 cm wooden skewer was retrieved from the abscess cavity (Figure 2). The site of perforation in the duodenal wall was observed as completely healed due to scar formation. The abdomen was closed leaving a tube drain in situ. Microbiological examination of the drained fluid revealed no pathology.

When questioned, the patient remembered that one month earlier, he had accidentally swallowed a piece of meat that contained a piece of wooden stick (a part of shish kebab) but he had given little attention to this incident since he had no symptoms afterwards. The postoperative course was uneventful. The patient had a full recovery with a complete relief of his epigastric pain and the fever and he was discharged from the hospital, completely asymptomatic, after five days.

DISCUSSION

Most ingested foreign bodies pass through the gastrointestinal tract uneventfully within one week. When symptoms arise, they are usually secondary to the obstruction or perforation of an organ [1]. The most common sites of perforation of the gut are stomach and duodenum [5].

It is difficult to establish the time interval from the ingestion of the foreign body until the onset of symptoms and the migrating foreign body may remain silent until an abscess formation [1–5]. Most patients have non-specific systemic symptoms such as fever, anorexia, vomiting or weight loss with leukocytosis or increased transaminases, bilirubin or alkaline phosphatase [9–11]. When there is no initial history of foreign body ingestion, these patients have a delayed presentation and may have been treated like any other case of pyrexia of unknown origin, as in our case.

An abdominal USG or CT scan is very helpful for the detection of the foreign bodies [1, 12–14]. In our case USG and CT showed hepatic abscess but the aetiological diagnosis was obtained after laparotomy.

Liver abscess and associated sepsis can be a serious and potentially life-threatening condition. Therefore, an early diagnosis and prompt treatment are crucial to prevent serious complications [10, 11]. The recommended initial therapy for pyogenic hepatic abscess is percutaneous drainage with antibiotic therapy. If the abscess is caused by a foreign body, as in our case, open drainage and removal of the causative material are required [15, 16]. Successful treatment of a liver foreign

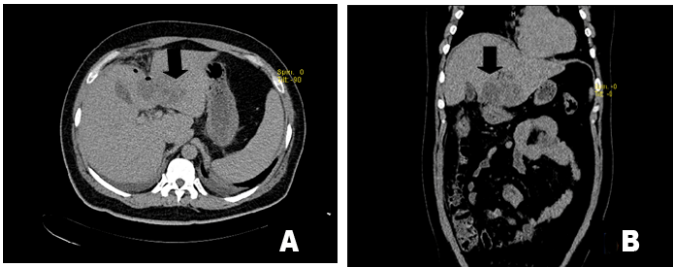

Figure 1 (A,B): Contrast enhanced CT scan showing low density area (black arrows) with gas and fluid, measuring approximately 7.5x 8cm consistent with left-sided intra-hepatic abscess (A: axial plane, B: coronal plane).

Figure 2: The removed piece of wooden skewer measuring 5 cm in length.

body by percutaneous transhepatic approach has also been reported [17]. We decided to perform an exploratory laparotomy instead of percutaneous drainage procedure in order to increase the probability of determining the underlying aetiology.

In the medical literature, hepatic abscesses due to ingestion of fishbones are quite common, however, hepatic abscess due to a wooden skewer has not been published so far although a wooden skewer is a commonly used material for Turkish traditional meal (kebab: small pieces of meats or some vegetables pierced with a wooden skewer) but not an easily and unintentionally swallowed material like fishbones. One case report from Greece-where Greece and Turkish cuisines have some similarities- published by Katsinelos et al. described a pyogenic gastric abscess caused by the unusual presentation of a piece of a wooden skewer swallowed with piece of meat while eating a traditional Greek meal, embedded into the gastric mucosa, which resulted in the development of an abscess [18]. So this case is another example which takes an attention to a rare but a possible gastrointestinal complication of an ingested wooden skewer.

CONCLUSION

In conclusion, this rarely ingested foreign body (wooden skewer) leading to this unusual condition must be kept in mind when dealing with cases of hepatic abscess, or even sepsis of unknown origin. The absence of a foreign body on ultrasonogrpahy and computed tomography scan should not dissuade the clinician from considering this possibility in the differential diagnosis.

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Author Contributions

Emel Ozveri – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Eser Vardareli – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published
Ozdal Ersoy – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published
Metin Ertem – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published
Nurdan Tozun – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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