Abdominal Abscess due to Perforation of the Terminal Ileum Caused by a Fish Bone Treated by the Conservative Treatment Using Antibiotics

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Abstract

Accidental ingestion of the foreign bodies rarely develops the perforation of gastrointestinal tract, and the perforation of gastrointestinal tract can lead to severe complications such as abscess, enteric fistula, or intestinal obstruction, and peritonitis. As the standard management for foreign body-induced bowel perforation, surgery is commonly selected. We experienced a patient whose abdominal abscess is due to perforation of the terminal ileum by a fish bone. Streptococcus intermedius was isolated from abdominal abscess. An absence of fistula between intestinal tract and abscess and a remarkable improvement of laboratory data and symptoms by using antibiotics made us select the conservative treatment. In conclusion, we succeeded to treat conservatively abdominal abscess due to perforation by a fish bone by using appropriately selected antibiotics.

Keywords: Abdominal abscess; Bowel perforation; Fish bone; Streptococcus intermedius

Introduction

The accidental ingestion of a fish bone can happen in everybody, and most of cases who ingested the foreign bodies such as a fish bone show no complication [1]. The possibility of development of perforation of gastrointestinal tract due to the foreign bodies is less than 1% [2]. The perforation of gastrointestinal tract can lead to severe complications such as the formation of abscess. The standard management for foreign body-induced bowel perforation is considered to be emergency surgery [3]. Here, we show a patient whose abdominal abscess due to perforation of the terminal ileum by a fish bone could be treated by the conservative treatment.

Discussion

Accidental ingestion of the foreign bodies by young children is relatively common. In adults, rapid eating, poor vision, mental disorders, and drug intoxication or alcoholism may be risk factors for accidental ingestion of the foreign bodies [2]. Our patient has risk factors for accidental ingestion of the foreign bodies such as schizophrenia and rapid eating. The most common perforation site is the terminal ileum as our patient did, due to its narrow and angulating anatomical nature [4]. Fish bones are the most commonly observed objects that result in
Figure 1. The enhanced abdominal computed tomography of abdominal abscess on admission.

Figure 2. The enhanced abdominal computed tomography of a fish bone on admission.
bowl perforation [5], which may result in the development of abscess, enteric fistula, or intestinal obstruction, and peritonitis. It is very difficult to make the diagnosis of bowel perforation due to the ingestion of fish bones [6], because fish bones are invisible on X-ray. As the modality to detect bowel perforation by fish bones, CT is useful like this case [7]. The standard treatment for bowel perforation due to the foreign bodies is emergency surgery [3]. In this case, the absence of fistula between intestinal tract and abscess and a remarkable improvement of CRP and symptoms by using antibiotics made us lead to the conservative treatment using antibiotics.

*S. intermedius* was detected from abdominal Figure 3. The treatment and changes in leukocyte counts and C-reactive protein (CRP) levels. Solid line and dotted line indicate CRP levels and leukocyte counts, respectively. CLDM: clindamycin; PCG: penicillin G; TAZ/PIP: tazobactam/piperacillin.

Figure 4. The enhanced abdominal computed tomography of abdominal abscess on day 15 and day 106.
abcess of our patient. *Streptococcus intermedius*, a member of the *Streptococcus anginosus* group, is considered to be part of the normal microbial flora of the oral cavity [8], and rarely causes abdominal abscess. Aspiration of commensal oropharyngeal *Streptococcus anginosus* can lead to pneumonia, lung abscess, and pleural empyema [9-13]. Aspirated *Streptococcus intermedius* with a fish bone may induce abdominal abscess in this case.

In conclusion, we succeeded to treat conservatively abdominal abscess due to perforation by a fish bone by using appropriate antibiotics.

**Conflict of Interest**

All authors declare no conflict of interest.

**References**