

IMAGE OF THE MONTH

옥돔 가시에 의해 발생한 막창자의 방선균증

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Fish Bone of *Branchiostegus Japonicas* Causing Actinomycosis in the Cecum in Male on Jeju Island

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Case: A 57-year-old male patient whose initial diagnosis was acute appendicitis visited at the outpatients department of general surgery. He has been suffered recurrent pain in the right lower quadrant abdomen for 2 years. Acute abdominal pain in the right upper and lower quadrants had increased 5 days ago. On admission, he was febrile with stable vital signs. Serum white blood cell count was 13,600 cells/ μ L (normal range 4,000-10,000 cells/ μ L) and CRP level was 14.95 mg/dL (reference range 0.0-0.3 mg/dL). Abdominal CT revealed inflammatory lesions, including appendicitis and peri-appendiceal abscess (Fig. 1). On admission day 3, he underwent right hemicolectomy for perforated cecum (Fig. 2). Intraoperatively, we found a 4-cm sized abscess with a fish bone in the cecum and the small bowel mesentery, copious dirty fluid in the pelvic cavity, and inflammation in the distal ileum and proximal ascending colon. BacT/Alert blood (bioMerieux, Marcy-l'Etoile, France) and anaerobic cultures of the surgical specimen identified each gram-positive rods. Histopathology revealed chronic active inflammation, edema, and microscopic actinomycotic colonies (Fig. 3). We diagnosed

a cecal actinomycosis caused by a fishbone. Intravenous ceftriaxone was prescribed for 4 weeks, followed by oral amoxicillin 1.5 g for 6 months.

Diagnosis: Fishbone causing actinomycosis in the cecum and perforation of cecal abscess

Actinomycosis, a rare infectious disease caused by *Actinomyces* spp., an anaerobic gram-positive bacteria, commonly affects the appendix, cecum, and colon in the abdomen, especially in patients with poor dental hygiene, women with intrauterine devices, and fish bone related lesions.¹ In addition, this is one of the greatest challenges for diagnosis because of mimicking malignant neoplasm. The organisms cause disease only when the normal mucosal barrier is broken, followed by abscess formation, fistula, or mass lesion.² The current role of imaging in the diagnosis of intra-abdominal actinomycosis is poorly defined. Of some of studies have suggested a feature of CT imaging, the colon was involved in the gastrointestinal tract, CT scans showed solid masses or cystic masses with thickened walls.^{3,4} Actinomycosis should be

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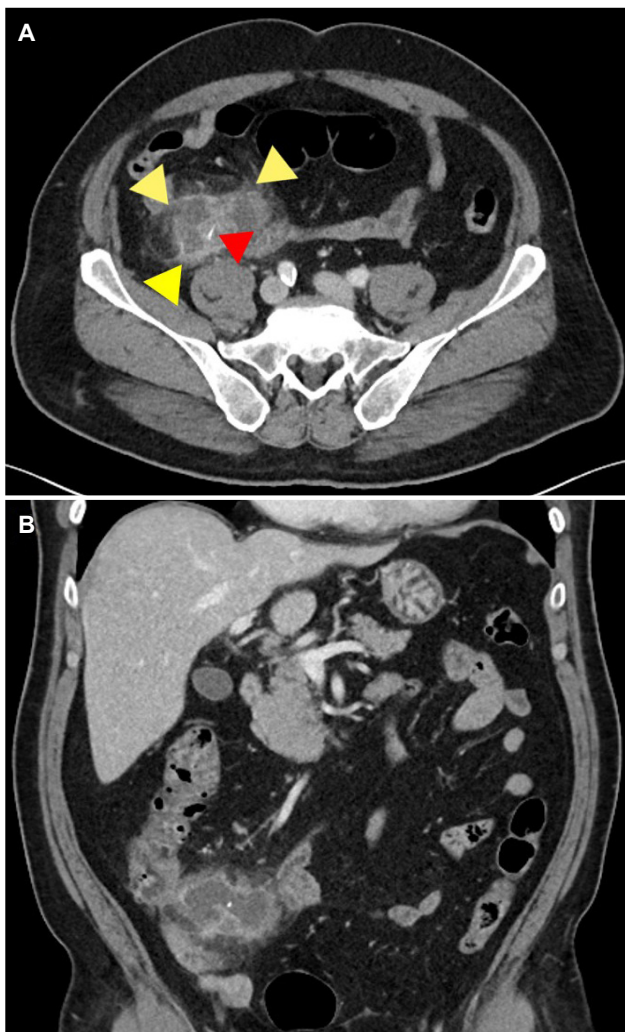


Fig. 1. (A) Abdominal computed tomography showing a 6-cm sized irregular peripheral enhancing low density lesion abutting the cecum with perilesional infiltration (yellow arrowheads) and a 2.5-cm sized linear radiopaque lesion (fishbone; red arrowhead) within the mass. (B) Coronal view.



Fig. 2. Excised specimen showing a perforated abscess (white arrows) and a sharp fishbone was retrieved from the abscess (not shown).

included in the differential diagnosis when CT scans show bowel wall thickening and regional pelvic or peritoneal mass with extensive infiltration.⁴ However, the features are often insufficient to help distinguish the other diseases. Physicians should be considered a history of patients with intrauterine contraceptive devices in female and foreign body such as fish bone. Bacterial culture and pathology are the cornerstones of diagnosis.⁵ However, prolonged bacterial culture in anaerobic conditions may be necessary, and most clinicians remain reluctant to consider cytological or tissue samples to avoid the possibility of tumor seeding before a specific diagnosis has been made. Intra-abdominal actinomycosis is uncommon, especially immunocompetent male. Imaging study and culture examination are shown to be useful but their roles in establishing definitive diagnosis are yet to be defined. Although,

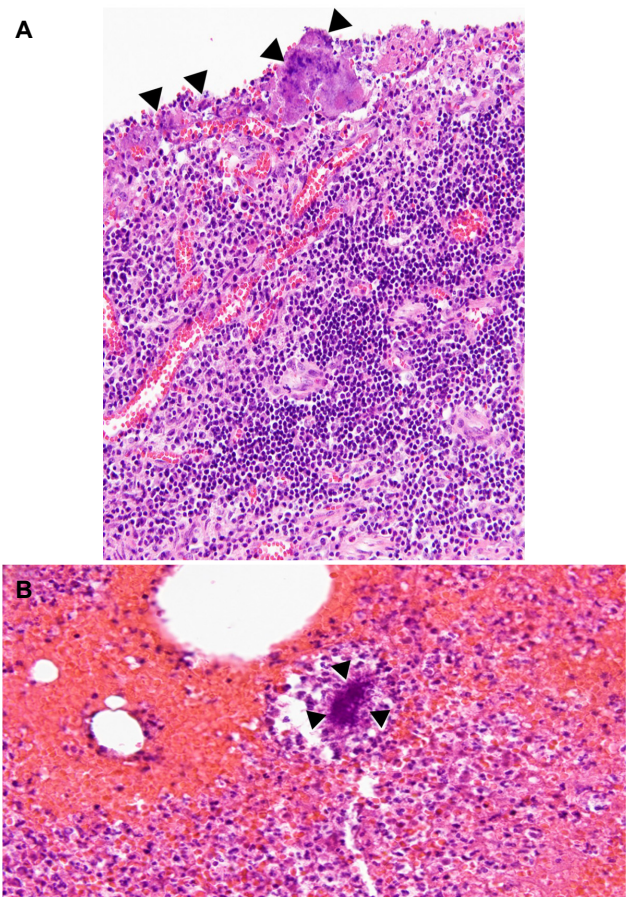


Fig. 3. (A) Photomicrograph of histopathological examination revealed inflammatory cells (mainly plasma cells and lymphocytes) were also noted, and demonstrates colonies of Actinomycetes (sulfur granules, black arrowheads) (hematoxylin and eosin stain, original magnification, ×200). (B) Sulfur granules, black arrowheads (hematoxylin eosin, original magnification, ×400)

treatment of long term parenteral then oral antibiotics of beta-lactam antibiotics were well curative, the patient additionally should be avoided an eating habit of fishbone for prophylaxis, because of the patient gave a long-term history of habitually consuming fish bone with grilled *Branchiostegus japonicus*. Herein, we report a case of fishbone associated actinomycosis causing perforated abscess in the cecum which was initially misdiagnosed as perforated appendicitis or colon cancer in immunocompetent male.

REFERENCES

1. Boyanova L, Kolarov R, Mateva L, Markovska R, Mitov I. Actinomycosis: a frequently forgotten disease. *Future Microbiol* 2015;10:613-628.
2. Berardi RS. Abdominal actinomycosis. *Surg Gynecol Obstet* 1979;149:257-266.
3. Ha HK, Lee HJ, Kim H, et al. Abdominal actinomycosis: CT findings in 10 patients. *AJR Am J Roentgenol* 1993;161:791-794.
4. Lee IJ, Ha HK, Park CM, et al. Abdominopelvic actinomycosis involving the gastrointestinal tract: CT features. *Radiology* 2001; 220:76-80.
5. Wong VK, Turmezei TD, Weston VC. Actinomycosis. *BMJ* 2011; 343:d6099.