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Case Report

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A Case of Epiploic Appendagitis with Acute Gastroenteritis

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Epiploic appendagitis is an inflammation of the epiploic appendage in which the small sacs projecting from the serosal layer of the colon are positioned longitudinally from the caecum to the rectosigmoid area. Epiploic appendagitis is rare and self-limiting; however, it can cause sudden abdominal pain in children. Epiploic appendagitis does not typically accompany other gastrointestinal diseases. Here, we report on a healthy eight-year-old girl who presented with abdominal pain, fever, vomiting, and diarrhea. Based on these symptoms, she was diagnosed with acute gastroenteritis, but epiploic appendagitis in the ascending colon was revealed in contrast computed tomography (CT). The patient was treated successfully with conservative management. CT is beneficial in diagnosis and further assessment of epiploic appendagitis. Pediatricians need to be aware of this self-limiting disease and consider it as a possible alternate diagnosis in cases of acute abdominal pain.

Key Words: Epiploic appendagitis, Acute gastroenteritis, Child

INTRODUCTION

Epiploic appendagitis is a benign clinical rarity with 8.8 incidences per million people [1]. Epiploic appendages are fat-filled, serosa-covered structures positioned in two separate longitudinal lines along the colon; inflammation can be caused by torsion or thrombosis in the appendageal draining vein [2-6]. Abrupt onset of abdominal pain over the corresponding area is a major symptom of epiploic appendagitis [5]. Epiploic appendagitis has been reported in children and adolescents; however, it is not accompanied by other gastrointestinal diseases [7]. This report describes a case of epiploic appendagitis accompanied by acute gastroenteritis in an eight-year-old girl.

CASE REPORT

An eight-year-old girl who had been healthy with a body mass index of 29 kg/m^2 was admitted to the hospital due to abdominal pain in the right upper quadrant for one day, which was progressively increasing in intensity. She had intermittent fever, with 8 to 10 episodes of non-bilous, non-projectile vomiting and frequent watery diarrhea with urgency over the last two days. On admission, she had a fever (38.6^{o}C), pulse rate of 70 beats/min, and respiration of 20 breaths/min. Physical examination revealed

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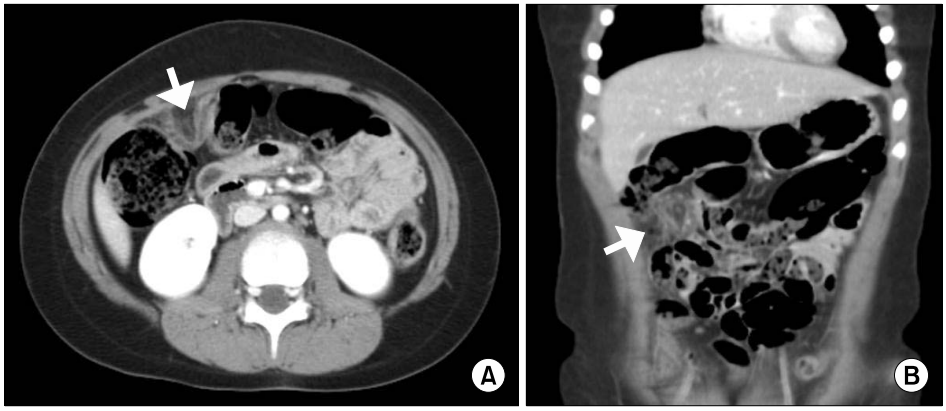

Fig. 1. Abdominal computed tomography showing a 2.2-cm ovoid fatty mass surrounded by an enhanced line with minimal haziness observed in the adjacent tissue (arrows): (A) axial views and (B) coronal views.

tenderness and rebound tenderness in the right upper quadrant. Decreased bowel sounds were heard on auscultation. Laboratory studies were unremarkable, except for leukocytosis with a predominance of neutrophil, 14,100/mm^3 (neutrophil 79.5%, lymphocyte 12.2%, and monocyte 6.5%) and an elevated C-reactive protein level, 4.32 mg/dL (reference range, 0-0.3 mg/dL). Blood and leukocytes were not found in stool and stool culture was sterile. Although no organism was isolated from stool examination, based on symptoms, we diagnosed the patient as acute gastroenteritis, and intravenous hydration, empirical antibiotics (intravenous amoxicillin/clavulanate), and antidiarrheal agents were administered. Due to right upper quadrant tenderness, abdominal contrast computed tomography (CT) scan was performed, which demonstrated a 2.2-cm ovoid fatty mass surrounded by an enhanced line with minimal haziness observed in the adjacent tissue (Fig. 1) in the ascending colon, and epiploic appendagitis was diagnosed. The patient was managed conservatively with hydration, antibiotic therapy, and antidiarrheal agents. On the third day after admission, fever, vomiting and abdominal pain were resolved and stool frequency decreased. On the fifth day, the patient was discharged from the hospital without complications.

DISCUSSION

Epiploic appendages are pendant structures protruding from the serosal layer of the large intestines, supplied by end arteries of long vessels of the colon and the tortuous vein drains. Excessive movements affecting the epiploic appendages may limit the blood supply and lead to torsion. As a result of spontaneous thrombosis in the vein, epiploic appendages can become infarcted as well. Torsion of the epiploic appendage or thrombosis in the draining vein of the epiploic appendage can cause epiploic appendagitis [2-6].

Epiploic appendagitis can affect any age group, with a peak incidence in the fourth to fifth decade, and obesity and heavy exercise are contributing factors [3,8,9]. The typical clinical manifestation of epiploic appendagitis is abdominal pain that is acute, moderate to severe, colicky, and continuous over the corresponding area of the colon. Sometimes there is vomiting; however, fever and diarrhea are unusual. Localized tenderness over the site is common and often associated with rebound tenderness without rigidity [2,5,6]. These symptoms mimic appendicitis, cholecystitis, and diverticulitis [2,3,10-12].

In the current case, an eight-year-old girl with a body mass index of 29 kg/m^2 whose symptoms included fever, vomiting, diarrhea, and abdominal pain was found to have epiploic appendagitis. How obesity contributes to the development of epiploic appendagitis is unclear, but persons with visceral fat are more inclined to have a limited blood supply or venous thrombosis in their outpouching structure along the large intestine. Based on the symptoms, the patient was diagnosed with acute gastroenteritis. An ab-

dominal CT was performed to differentiate her condition from appendicitis or right-sided diverticulitis. On the CT, ovoid fatty mass was observed in the ascending colon, corresponding to the tender point. We can conclude that epiploic appendagitis was the cause of acute abdominal pain. Although secondary epiploic appendagitis may occur as a result of appendicitis, cholecystitis, diverticulitis, or pancreatitis, most cases are not associated with other gastrointestinal diseases. Considering that fever and diarrhea are not uncommon in epiploic appendagitis, in the current case, epiploic appendagitis was not encountered secondary to acute gastroenteritis, but was incidentally accompanied by acute gastroenteritis.

Laboratory investigations are not conclusive. Radiologic evaluations, abdominal ultrasound examinations, and CT are useful in diagnosis. The presence of a hyperechoic non-compressible ovoid structure near the colonic wall with the absence of blood flow in a sonographic assessment provides a clue for diagnosis. An ovoid fatty mass with a hyperattenuated ring sign is a distinctive CT finding, which may enable clinicians to differentiate epiploic appendagitis from diverculitis and other diseases causing acute abdominal pain [10-12]. Adjacent to the lesion, fat stranding, a mass involving the bowel wall, and thickening of the peritoneum are frequently observed [13]. Epiploic appendagitis resolves spontaneously within five to seven days without surgery; however, if the diagnosis is made during exploration, the best strategy is to remove the affected area [14]. The patient in this report was diagnosed with epiploic appendagitis by contrast CT and was treated successfully with conservative management.

Predominantly, epiploic appendagitis is a self-limiting disorder, and it is important that pediatricians and radiologists become familiar with it to prevent not only the overuse of medicinal resources, but also unnecessary hospitalization and surgical intervention.

REFERENCES

1. De Brito P, Gomez MA, Besson M, Scotto B, Huten N, Alison D. Frequency and epidemiology of primary epiploic appendagitis on CT in adults with abdominal pain. J Radiol 2008;89:235-43.
2. Blinder E, Ledbetter S, Rybicki F. Primary epiploic appendagitis. Emerg Radiol 2002;9:231-3.
3. Jain TP, Shah T, Juneja S, Tambi RL. Case of the season: primary epiploic appendagitis: radiological diagnosis can avoid surgery. Semin Roentgenol 2008;43:4-6.
4. Pereira JM, Sirlin CB, Pinto PS, Jeffrey RB, Stella DL, Casola G. Disproportionate fat stranding: a helpful CT sign in patients with acute abdominal pain. Radiographics 2004;24:703-15.
5. Van Breda Vriesman AC, de Mol van Otterloo AJ, Puylaert JB. Epiploic appendagitis and omental infarction. Eur J Surg 2001;167:723-7.
6. Schnedl WJ, Krause R, Tafeit E, Tillich M, Lipp RW, Wallner-Liebmann SJ. Insights into epiploic appendagitis. Nat Rev Gastroenterol Hepatol 2011;8:45-9.
7. Fraser JD, Aguayo P, Leys CM, St Peter SD, Ostlie DJ. Infarction of an epiploic appendage in a pediatric patient. J Pediatr Surg 2009;44:1659-61.
8. Legome EL, Belton AL, Murray RE, Rao PM, Novelline RA. Epiploic appendagitis: the emergency department presentation. J Emerg Med 2002;22:9-13.
9. Dockerty MB, Lynn TE, Waugh JM. A clinicopathologic study of the epiploic appendages. Surg Gynecol Obstet 1956;103:423-33.
10. Mollà E, Ripollés T, Martínez MJ, Morote V, Roselló-Sastre E. Primary epiploic appendagitis: US and CT findings. Eur Radiol 1998;8:435-8.
11. Singh AK, Gervais DA, Hahn PF, Sagar P, Mueller PR, Novelline RA. Acute epiploic appendagitis and its mimics. Radiographics 2005;25:1521-34.
12. Hurreiz HS, Madavo CM. Torsion of an epiploic appendix mimicking acute appendicitis. Saudi Med J 2005;26:2003-4.
13. Kianmanesh R, Abdullah B, Scaringi S, Leroy C, Octernaud S, Chabanne S, et al. Primary epiploic appendagitis: a nonsurgical and often misdiagnosed pathology. Presse Med 2007;36:247-50.
14. Gupta V, Kumar S. Appendicitis epiploicae: an unusual cause of acute abdomen in children. J Indian Assoc Pediatr Surg 2008;13:83-4.