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Case Report

Recurrent abdominal pain and fever as clinical manifestations: epiploic appendagitis

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Abstract: Epiploic appendagitis is a relatively rare disease which includes primary and secondary types. Typical manifestations of Primary Epiploic Appendagitis (PEA) are similar to appendicitis except that it is not usually accompanied with fever or leucocytosis, thus misdiagnosis of diverticulitis or appendicitis in clinical settings is common. In this study, we presented a case study of a patient diagnosed with PEA and recurrent abdominal pain and fever for four months The patient experienced persistent dull abdominal pain since four months age and after tolerating a recent episode of pain for two days, and developed a fewer of up to 39°C accompanied with chills. Clinical analysis and computed tomography (CT) were conducted to better understand PEA.

Keywords: Epiploic appendagitis, computed tomography, clinical manifestations

Introduction

Epiploic appendagitis is a relatively rare disease which includes primary and secondary types [1, 2]. Primary epiploic appendagitis (PEA) always result in necrosis and inflammation of epiploic appendage fat due to torsion [3]. While secondary epipolic appendagitis is caused by the inflammation of neighboring tissue such as diverticulitis [4, 5]. Typical manifestations of PEA are similar to appendicitis except that it is not usually accompanied with fever or leucocytosis, thus misdiagnosis of diverticulitis or appendicitis in clinical settings is common. In this paper, a case study of a patient diagnosed with epiploic appendagitis will be discussed, supplemented with clinical and computed tomography (CT) characteristics to better understand PEA.

Case report

A 74-year-old woman, she consulted The First Affiliated Hospital, Zhejiang University, with chief complaints of recurrent abdominal pain and fever lasting for four months. She experienced persistent dull abdominal pain starting from four months ago. She developed a fever up to 39°C accompanied with chills after suffering the pain for two days. She consulted at the local hospital and received anti-infection therapy. Both her abdominal pain and fever resolved after three days' treatment. However, the same symptoms appeared during the past four months and the diagnosis remained unclear. Due to the reoccurrence of symptoms, she came to our hospital to obtain a clear diagnosis and treatment. Routine blood tests showed white blood cells count to be 14.3×10^9/L, the percentage of neutrophil cells was 82.2%. Abdominal CT showed a mixed density shadow near the distal part of descending colon with dimension of 2.5 cm × 1.2 cm, with a focal fat density, with soft tissue density surrounding the fat density (**Figures 1** and **2**). We considered that the focal fat density may possibly be epiploic appendagitis. Laparoscopic surgery showed mesangial mass of descending colon with clear boundary of dimensions 2 cm × 3 cm. After complete removal of the mass, pathology

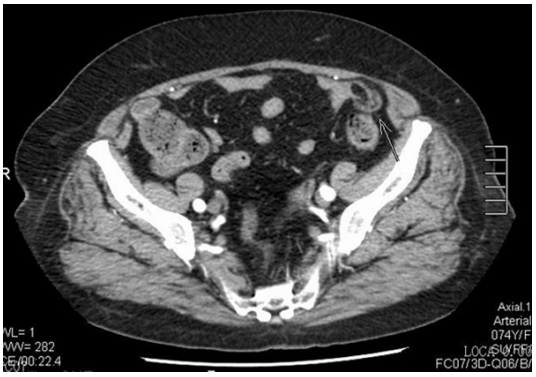

Figure 1. CT of cross-section showed a mixed density shadow near the distal part of descending colon with 2.5 cm × 1.2 cm size, and the center for fat density, with soft tissue density ring around the fat density.

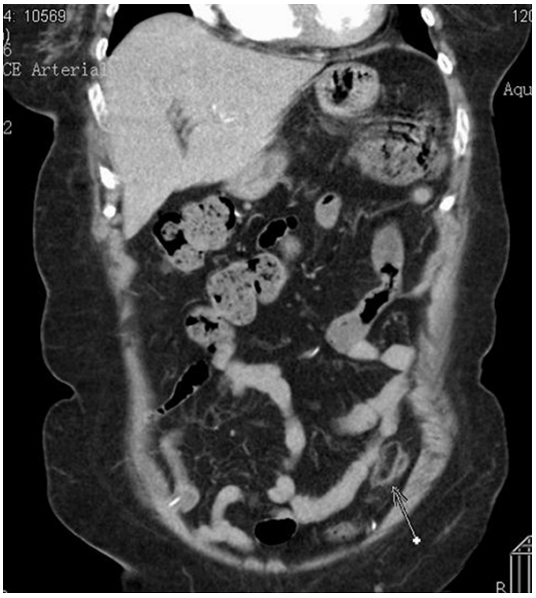

Figure 2. CT of coronal plane showed a mixed density shadow which is the same position with **Figure 1**.

revealed fibrous tissue hyperplasia in fibrous fat tissue, a large number of giant cell proliferation and inflammatory cell infiltration in focal lesion, and the existence of a large amount of eosinophilic structure (**Figure 3**). The symptoms did not reappear in the six months following the operation.

Discussion

Epiploic appendages are 50-100 fatty appendages originating in two separate longitudinal rows (anterior and posterior) next to taenia coli over the external surface of the colon [6]. They are about 0.5 to 5 cm long and 1 to 2 cm thick,

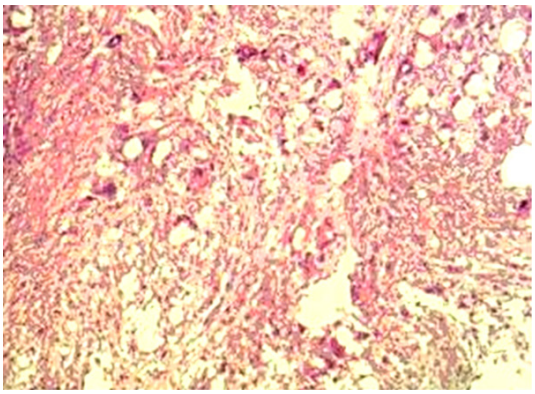

Figure 3. The pathology showed fibrous tissue hyperplasia in fibrous fat tissue, a large number of foreign body giant cells proliferation and inflammatory cell infiltration in focal lesion, and the existence of large amount of eosinophilic structure. (H&E staining, × 10).

each is supplied by one or two arterioles and a venule in its vascular stalks passing through its narrow pedicle [6-8]. Ischemia is the main pathophysiological mechanism of PEA, the possible reasons are torsion of the epiploic appendages and spontaneous venous thrombosis [9, 10]. In this case, the diagnosis of PEA was delayed at the beginning due to insufficient understanding of PEA. It was finally diagnosed by CT scan and further confirmed with laparotomy and pathology.

Having reviewed the clinical manifestations of the case, they are consistent with the characteristics of PEA. Patients usually describe a localized, strong, non-migratory, sharp pain which usually start after a specific physical movement, for example, postprandial exercise. Abdominal tenderness was present in all patients [6]. The case presented with symptoms similar to the above symptoms, abdominal pain appeared repeatedly in the past four months, and the location was relatively fixed. Additionally, the patient may have a low-grade fever, and WBC count could be slightly elevated because of the inflammation, which is similar with the previous report [7, 11]. Normal epiploic appendages are not seen on CT scan. CT is the most effective diagnostic method to PEA, unenhanced or enhanced CT found oval or flame-shaped fat density mass around colon, a high-density outer peripheral wall and mixed together with the surrounding fat, no thickening of adjacent bowel wall, center density of epiploic appendages can be increased which could be

due to necrosis or thrombosis. [1]Therefore, CT will help us diagnose PEA if we are familiar with the CT features of PEA.

In conclusion, when cases presenting with recurrent abdominal pain and fever, we need to focus on the CT features and consider PEA after excluding the conventional diseases.

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Discourse of conflict of interest

None.

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