Diagnosis is right, but located in left : acute appendicitis

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To the Editor,

A 69-old man was admitted to emergency service with abdominal pain and nausea which had lasted for three days. He explained that abdominal pain began as periumbilical area and migrated to left side of umbilicus. He denied any history of abdominal surgery or chronic disease. Muscular defense and rebound were found on the left side of umbilicus in abdominal examination. Vital signs were insignificant except for a fever of 38.6°C. Urine analysis was normal. Hemoglobin count was 14.4 g/dL and white blood cell count was 14160/mm^3. C reactive protein was 27.39 mg/dL. Abdominal X-ray and ultrasonography (US) was unremarkable. Abdominal computed tomography (CT) scan revealed left-sided caecum with pericaecal inflammatory changes due to acute appendicitis (Figure 1).

Patient was taken to operating room and limited midline incision was applied. It was seen that Treitz ligament was located at right side while caecum and ascending colon were at left side of umbilicus (Figure 2). Location of other organs was normal. Patient underwent appendectomy due to acute appendicitis. The postoperative period was uneventful, and he was discharged two days after surgery. On the gross and histopathological examination, 5-centimeters-long phlegmonous appendix was seen. Patient had completed 10-month follow-up period without complication.

Acute appendicitis (AA) is the most common emergency surgery worldwide. AA is an emergency that usually presenting with right lower quadrant pain and requiring surgical treatment (1). However, the appendix may be localized on inguinal canal, femoral canal, subhepatic, retrocecal or midline and also the left side as it is in the situs inversus and intestinal malrotation (IM) patients (2,3).

Midgut is the part between the second part of duodenum and distal of transverse colon. In the embryological period, rotation is performed on the axis of the superior mesenteric artery and organ placement completes before birth. The absence or inadequacy of this rotation is called as IM (3). IM is seen in one of 500 births and 85% of patients are diagnosed in the first two weeks of the life due to symptoms. IM rarely can stay asymptomathic until the adulthood. The incidence of IM in adults is unknown (4). In a comprehensive review of the literature, 69.4% of left-sided acute appendicitis cases were associated with situs inversus totalis, while 24.2% were associated with IM (3).

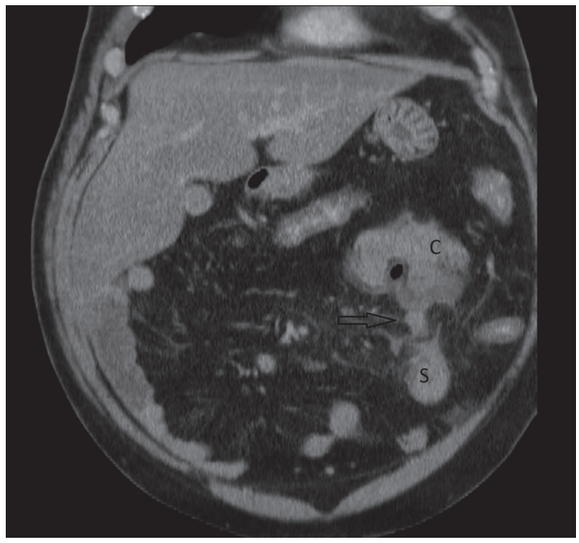

Figure 1. — Intestinal malrotation and left-sided acute appendicitis in computed tomography coronal section. C : Cecum, S : Sigmoid colon. Left-sided inflamed appendix and pericaecal inflammatory changes (arrow).

US and CT can be used for diagnosis. Over the past two decades, applying US and CT has increased in diagnosis process of acute appendicitis. US has disadvantages such as operator dependency, reduced efficiency in presence of colonic gas or obesity. CT is sensitive over 90%. Among patients diagnosed with left-sided acute appendicitis after 2000, 28 patients were diagnosed by CT, while 22 patients by US (3). In the presenting case, US was unremarkable while CT was diagnostic.

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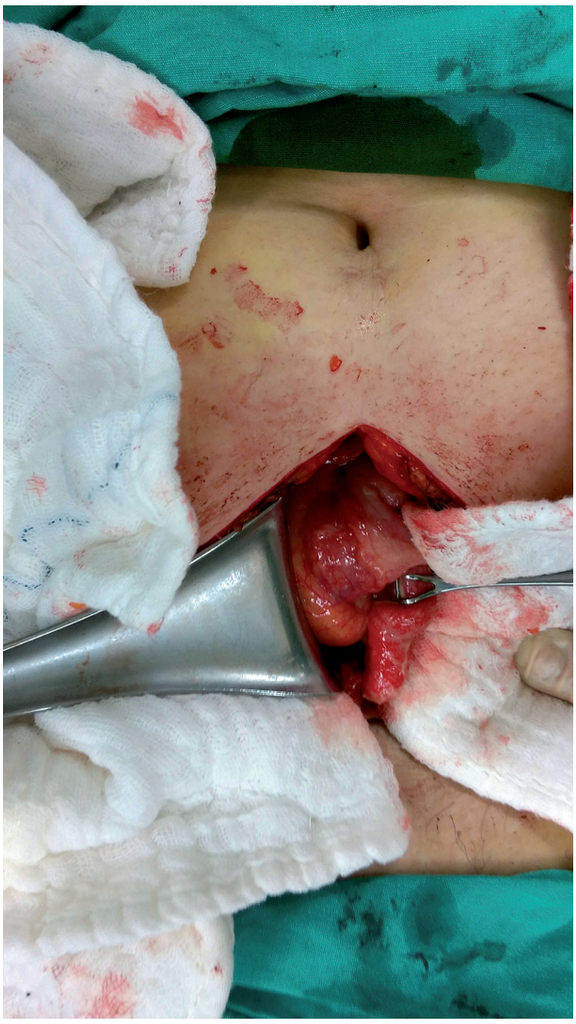

Figure 2. — Appendix with inflammation is seen after midline incision was performed.

Intestinal malrotation and acute appendicitis are rarer pathologies in advanced ages comparing with in childhood. Coexistence of these pathologies in elderly patients makes diagnosis considerably very difficult. If symptoms are indefinite, we believe that contrast enhanced abdominal CT is absolutely necessary in order to diagnose both pathology and also guide surgical strategy.

Informed Consent

Written informed consent was obtained from the patient who participated in this study.

References

1. TAWK C.M., ZGHEIB R.R., MEHANNA S. Unusual case of acute appendicitis with left upper quadrant abdominal pain. *Int. J. Surg. Case Rep*., 2012, **3** : 399-401.
2. CHIN C.M.., LIM K.L. Appendicitis : Atypical and challenging CT appereances. *Radiographics*, 2015, **35** : 123-124.
3. AKBULUT S., ULKU A., SENOL A., TAS M., YAGMUR Y. Left-sided appendicitis: review of 95 published cases and a case report. *World J. Gastroenterol*., 2010, **16** : 5598-5602.
4. TSUKADA T., KAJI M., HIGASHI Y., TERAI S., AMAYA K., SHIMIZU K. Single-incision laparoscopic appendectomy for treating appendicitis in a patient with gastrointestinal malrotation. *Int. J. Surg. Case Rep*., 2014, **5** : 558-561.