

# Imaging diagnosis

## Case 318

### 1. Appendicitis with peri sigmoiditis

#### 【Progress】

He received antibiotics for several days, improving pain symptom and inflammatory values of laboratory test. He was under a clinical observation at the time of 2 weeks after.

#### 【Discussion】

Appendicitis is mostly possible to make correct diagnosis on non-enhanced CT with three-dimensional images. The keys to find appendix are to follow ileum end to cecum for differentiating ileum end from swollen appendix with closed space on axial and coronal viewings, and to look for a tube in front of psoas muscle on sagittal viewing.

However, in this case, exact diagnosis of appendicitis was not made on non-enhanced CT. Retrospectively, based on contrast-enhanced CT, there were two mis-readings; first, swollen sigmoid colon wall with dirty mesocolon that grabbed my attention and checking appendix is distracted: second, swollen cecum was misread as overlapping of small intestine because the continuous ascending colon with normal wall thickness contained routine feces, swollen cecum with no feces and swollen appendix mimicked adjacent small intestine. Contrast-enhanced CT two days later, however, revealed the swollen appendicitis with inflammatory infiltration to sigmoid mesocolon.

There were two cases with appendicitis in the present series of A Case of the Week or 10 days; one, appendicitis of the distal half and intact appendix of the proximal half with long appendix containing fecalith at its midpoint: another, omentum to cover appendicitis was descended and incarcerated to inguinal canal inducing formation of retention cyst by lubrication fluid accumulation from omentum itself.

Swollen sigmoid colon with dirty mesocolon can occur in sigmoid colon diverticulitis, ischemic colitis, pseudomembranous colitis, and sigmoid colon cancer (1). These diseases arise from origin of sigmoid colon, but in this case, appendicitis infiltrated to sigmoid mesocolon and sigmoid mural. Our patient left abdominal pain for a few days with lying bed, indicating that there was time of inflammation of appendicitis being infiltrated to the surrounding of cecum and sigmoid colon.

There are four mesenteries in abdomen, proper mesentery, transverse mesocolon, sigmoid mesocolon and appendix mesocolon. Mesentery composes of double layers of peritoneum. It encloses bowel and fixes bowels to posterior abdominal wall. Mesentery carries vessels of artery, portal vein, nerve and lymphatic channels. Further, mesentery stock fat tissue. Then, bowel has two parts: mesentery or mesocolon without serosa side and with serosa side. Vessels enter bowel wall from mesentery side. Vessels entering sites lack muscle layer, inducing formation of diverticulum. Diverticulosis rare under twenties but ages over forties, incidences of colon diverticulosis rise (2 - 4). Diverticulosis is formed at the weak point of internal pressure of bowel, implying diverticulum arises from mesentery side rather than serosa side. Further, mesentery side can be susceptible more for tumor penetration than serosa side (5 – 7).

### **【Summary】**

We presented a fifty-three-year-old male for lower abdominal pain. Although his pain was too strong to hardly move, he left it lying bed for a few days. Laboratory test revealed white blood cells 9380/mm<sup>3</sup>, neutrophils 75.9%. CRP 16.33 mg/dL. Non-enhanced CT depicted swollen sigmoid colon with dirty mesocolon. Two days later, contrast-enhanced CT using contrast medium showed swollen appendicitis with inflammatory infiltration to sigmoid colon via sigmoid mesocolon. It is borne in mind that swollen sigmoid colon with dirty mesocolon could come not only from sigmoid colon origin such as diverticulitis, ischemic colitis, pseudomembranous colitis, ulcerative colitis and sigmoid colon cancer, but also from out-sided sigmoid colon origin such as appendicitis. Appendicitis on non-enhanced CT could be overlooked in case of swollen cecum or swollen sigmoid colon.

### **【References】**

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