

Correct diagnosis

Case 357

1. Acute appendicitis

【Discussion】

Is it not so difficult to make correct diagnosis of acute appendicitis? On Day 1, imaging diagnosis was made infectious ileitis in our institute based on findings of presence of swollen ileum with fluid collection. Further, the small tube with gas retention mimicking normal appendix was depicted on sagittal view. On Day 2, swollen ileum was gone, that was judged that fluid retention in swollen ileum was gone, namely passed to colon. Our pediatrician felt dubious about the situation of dissociation between radiologic findings and laboratory results that elevation of white blood cell count and CRP value. Then, she sent her to Mother-children health care center for further investigation. The response letter a few days after said she was diagnosed perforated appendicitis.

Retrospectively, radiologic findings were rechecked. The following are clarified on Day 1; cecum was extremely fully dilated with feces and swollen, elongated appendix was branched at upper portion of cecum, mimicking ileum end; real ileum end with gas retention was branched at adjacent more upper portion, mimicking overlapping small bowel. Further, on Day 2, swollen appendix was gone, indicating fluid was flowed out from perforated appendix with increase of ascites in Douglas pouch.

The basic for CT image interpretation of appendicitis is listed (1-4); confirmation of appendix and ileum end; in case of difficulty on axial CT, sagittal CT and coronal CT images are necessary for identification; appendix often situates anterior to psoas muscle adjacent to iliac artery and vein: contrast-enhanced CT is necessary for differentiation. Despite the basic interpretation flow, I cannot reach correct diagnosis in this case. The learning point from this case is to confirm the content in the bowel lumen among ileum end, appendix and cecum. On Day 1, the content in the cecum was compatible with common feces, the content in ileum was gas, and the content in appendix was fluid. Remarking the different content among ileum end, appendix, and cecum, might have led that the swollen tube with fluid is appendix rather than ileum end. Then, the confirmation of content inside the lumen of appendix, cecum and ileum end had better be included in the interpretation of basics for appendicitis CT image interpretation.

We add another case with appendicitis which took time to make correct diagnosis of appendicitis (Case 2 Figs 6, 7). In this case, remarkable pitfall is included for imaging diagnosis for appendicitis. The appendix beginning, body was normal, but its tip was swollen. The inflammation site was far from cecum, adjacent to small intestine mimicking inflammation small bowel disease. The appendicitis arisen from tip was the third case in this case presentation series (Case 167, Case 318). The continuity of appendix is necessary to be tracked to avoid misinterpreting.

【Summary】

We presented a 12-year-old girl with perforated appendicitis which was interpreted infectious small bowel disease. Swollen appendix was misinterpreted ileum end with fluid retention on Day 1, and swollen tube filled with fluid was gone on Day 2 that was misinterpreted outflow of intraluminal fluid of ileum to colon. Virtually, swollen appendix was visualized and fluids in appendix was outflowed into abdominal cavity via perforation. It is borne in mind that standard for basic image interpretation were; confirmation of appendix and ileum end; in case of difficulty on axial CT, sagittal CT and coronal CT images are necessary for identification; appendix often situates anterior to psoas muscle adjacent to iliac artery and vein: contrast-enhanced CT is necessary for differentiation. The absence or presence of differentiation of contents in lumen among cecum, ileum end and appendix, should be added in the interpretation of basics for appendicitis.

【References】

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