Case 167

4.Appendicitis

【Progress】

The following day, he received a laparotomy followed by cleaning drainage tube insertion. It revealed acute appendicitis and peri appendix abscess. One week later, he was discharged without any complication.

【Discussion】

Appendicitis is one of the common disease for a local municipal disease rather than a university hospital. It is imperative to make exact diagnosis of appendicitis using imaging modality. CT is an essential tool as well as ultrasound although comprehensive judgement of whether surgical management should be done or not, is necessary using the patient's symptom process and laboratory outcomes.

Based on my experiences, abdomen CT enables to make an exact diagnosis easily in 80 to 90 percent of cases with appendicitis. An appendix usually appears in a form of tube at a retro-cecum site, by following the tube image, appendicitis can be confirmed. Appendicitis is usually seen as a thickened-wall tube with peri-tube inflammation to appendix mesentery. It sometimes causes peri-appendix abscess. Appendicitis is categorized into; catarrhal, inflammation stays within membrane layer or submembrane layer; phlegmon, inflammation infiltrates to all layers of appendix: gangrene, inflammation causes necrosis to appendix wall.

However, we sometimes encounter the difficult cases whether they have appendicitis or not. The reasons of the difficulties are listed as follows. First, inlet of the appendix is adjacent to the ileum end and it extends to the parallel to the ileum. This situation is known to occur in approximately 2% (1 – 3).

In this situation, we become to lose the first clue to identify the appendix. It sometimes confuses whether the patient previously might receive appendectomy or not. Further, it confuses whether the dilated tube is the small bowel or the dilated appendix. It indicates that we should find out the closed dilated tube without continuity. Second, appendix is sometimes swollen with dilated ileum and colon with fluid retention in their lumens. In this situation, it confuses whether appendicitis infiltrate to the ileum and/or colon, or whether bowel inflammation can transmit to appendix as well as ileum and colon. The later situation implys no need to manage surgical resection.

Meanwhile, the cecum cancer causes appendicitis in case of tumor invasion to the inlet of appendix, inducing appendicitis. Then, when appendicitis is found, it is imperative to check the cecum whether it includes fluid retention or tumor mass. Third, appendicitis does not always inflames the whole appendix and it can initiate from the tip of appendix. When the inflammation occurs from the appendix tip, inflammation can infiltrate directly and speedily to the mesoappendix rather than to the appendix inlet.

In our case, it was difficult to make an exact diagnosis of appendicitis on non-enhanced CT. As shown in Figs 1 to 6, the appendix inlet cannot be found and the appendix runs parallel to the ileum end, the inflame occurs from the appendix tip with peri-appendix tip abscess. But finally, we reached to make a diagnosis of appendicitis based on enhanced CT using contrast medium. For making a diagnosis of appendicitis in case of the difficulty to identify an appendix inlet, it is important to check a closed thickened-wall tube with no continuity which situates in front of the left psoas muscle or left iliac artery and vein. When you lose the following of the thickened-wall tube on CT, do not move your eyes to the next sliced image but return to the previous sliced image because the appendix runs coiling, swirls (whirl), goes forward and backward or, downward and upward.

【Summary】

We present a seventy nine-year-old male suffering from abdominal fullness and fever. Abdomen CT revealed the difficulty of the appendix inlet because appendix travels adjacent and parallel to the ileum end. Further, it showed the normal-sized appendix at the proximal portion and the swollen appendix from the middle. Appendicitis occurs at the appendix tip and infiltrates to the mesoappendix, inducing the abscess formation. Surgical specimen revealed the gangrene appendicitis at the appendix tip. It is borne in mind that appendicitis is categorized into catarrhal, phlegmon and gangrene. When the inlet appendix is difficult to find out on CT, the tube in front of the right psoas and external iliac artery & vein should be explored. When losing continuity of the tube on CT, do not move only to the following image but also returns to the previous image because appendix sometimes run coiling, upward and downward, or forward and backward. Further, the final clue to find appendicitis is to look for the thickened wall tube with no community. Furthermore, it is imperative to differentiate the appendicitis from infectious bowel disease and that from appendicitis originated from cecum cancer.

【References】

1.Clegg-Lamptey JN, et al. Position and susceptibility to inflammation of vermiform appendix in Accra, Ghana. East Afr Med J. 2006; 83 (12): 670–3. PMID 17685212.
2.Gordon R, et al. Residual appendix producing small-bowel obstruction after laparoscopic appendectomy. Can J Surg. 2004; 47: 217–218.
3.Rajan M, et al. Staple line as a cause of unusual early internal hernia after appendectomy. Int J Surg. 2 014;12 :S159-61. doi: 10.1016/j.ijsu.2014.05.021. Epub 2014 May 22.

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