

Imaging diagnosis

Case 340

5. Peri cecal internal hernia

[Progress]

Two days later, he received endoscopic-guided operation. It revealed peri cecal internal hernia (Fig.7).

[Discussion]

Peri cecal space is the site of emerging small bowel obstruction especially after appendectomy. Of the internal hernia in abdomen, peri cecal internal hernia is the second most followed by para duodenal hernia which includes right and left para-duodenal hernia (1-3). It occurs with the incidence of 13% (1-3).

Small bowels protrude from interspace or defect of cecal mesentery formed by congenital or acquired. They usually protrude to lateral & posterior sides of cecum. It is followed to develop strangulation hernia, leading to be reported to cause mortality 75% (1-3). Then, it is necessary to differentiate it speedily from appendicitis and infectious colitis.

Abdomen CT is useful to differentiate ileus from appendicitis and infectious bowel diseases. However, next stage of differentiating what causes ileus, namely adhesive, strangulation, paralytic or food impaction is sometimes difficult to reach correct diagnosis of cecal hernia. In this case, it is difficult to reach to correct diagnosis of cecal hernia. For me, I usually look for a sign of small bowel feces sign to identify the occlusive site. In this case, there was no small bowel feces sign. Next, I look for the constrictive small bowel and follow it until an inflated bowel. But I could not find out the boundary occlusive site. Third, I checked colon whose diameter was narrower than the dilated small bowel, and I could identify the site from cecum to rectum. I confirmed sites of the constrictive whole colon, and further the constrictive distal ileum.

Moreover, I tried to reach the occlusive site from constrictive ileum to the occlusive site. However, still, I could not identify the occlusive site of small bowels. Then, I realized a small volume fluids at right paracolic gutter, which induced me to check the fluids on sagittal images. Finally, I found out closed loop sign at the site posterior to cecum, indicating strangulation – type ileus.

Further, I confirmed on sagittal image the double beak sign; one beak sign indicates constructive site between dilated small bowel of closed loop and dilated small bowel of the oral side, another beak sign indicates between dilated small bowel of closed loop and constrictive small bowel of anal side.

Based on this experience, it might be better that when ileus is encountered, for detecting occlusive point of small bowel ileus, first, small bowel feces sign should be explored in dilated small bowel and then, constrictive small bowel following from ileum end to dilated bowel with confirmation of colon constriction or dilatation, the relation of cecum with dilated small bowel and finally, closed loop sign on either axial, coronal or sagittal image. In our case, closed loop sign is only found on sagittal image. Closed loop sign should appear on either imaging of coronal, axial or sagittal image for strangulation ileus (4-6). Closed loop sign is detected only on sagittal image in our case with cecal internal hernia.

【Summary】

We presented an eighty-four-year-old male with peri cecal internal hernia whose content is small intestine through cecal mesentery defect, leading small intestine obstruction. At first, it was at first, mistakenly interpreted as adhesive ileus but finally successfully peri cecal strangulated ileus. It is borne in mind that when the diameter of small intestine is more than 30mm indicative of ileus, the CT interpretation for occlusive site starts from looking for small bowel feces sign, and then, constrictive small intestine from ileum end followed by looking for the transition point to dilated small intestine. Further, the colon situation is confirmed whether dilatation or constriction. Furthermore, the existence of closed loop sign is searched on axial, sagittal and frontal images. On cecal internal hernia, closed loop sign is detected only on sagittal image in our case.

【References】

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