Diagnosis after laparotomy

Case 371

1. Adhesive small bowel obstruction

【Progress】

He underwent endoscopic laparotomy that revealed adhesive small bowel obstruction. Adhesive band was peeled off, preserving normal small bowel.

【Discussion】

On day 1 he was considered to suffer from small bowel infectious disease based on small bowel dilatation whose diameter was less than 3cm plus normal-sized colon dilatation with moderate stool accumulation (Fig 2). Mildly swollen appendix was considered to attribute to bowel infectious disease. On day 3 small bowel dilatation was more expanded to greater than 3cm, and an occlusion site between dilated small bowels, was identified. Further, there existed simultaneously constrictive small bowel and mesenteric edema.

The existence of occlusive site between dilated small bowel, anal-sided constrictive small bowel and mesenteric edema was considered not to be caused by paralytic ileus or infectious bowel disease but by the latent strangulation small bowel obstruction because the occlusive site between small bowels mimics oral-sided small bowel dilatation by closed loop. Ileus tube was inserted to small bowel and contrast medium (gastrografin) was injected. Surprisingly, although contrast medium reach to anal-sided constrictive small bowel and colon, dilated small bowel with occlusive site was not delineated, indicative of speedy passage of contrast medium.

This phenomenon broke through my fixed concept that occlusive site of small bowel usually brings oral-sided small bowel dilatation and anal-sided small bowel constriction that was often observed in strangulation ileus such as closed loop (1-3). This phenomenon teaches us that incomplete occlusion, namely stenosis induces both dilatation of oral-sided small bowel and anal-sided small bowel. Further, the dilated anal-sided small bowel after occlusive site indicates elevation of intraluminal pressure, leading speedy washout of contrast medium after contrast-injection.

It is imperative to find out the occlusive site when you encounter small bowel obstruction whose diameter is greater than 3cm (1-3). When double beak sign could be found, it indicates the possible strangulation small bowel obstruction; one beak sign between oral-sided dilatation and dilated small bowel of closed loop: another beak sign between dilated small bowel of closed loop and constrictive anal-sided small bowel. When double beak sign could not be found but single beak alone, the situation of dilated oral-sided small bowel and dilated anal-sided small bowel with intraluminal pressure elevation (4-6). In other words, adhesive small bowel occlusion with incomplete occlusion brings both dilatations of oral-sided small bowel and anal-sided small bowel. This knowledge can be useful to interpret imaging diagnosis in case of small bowel obstruction.

Further, mesenteric edema was observed near the occlusive site. The margin of mesenteric edema did not concentrate to the occlusive site that often be found in case of strangulation small bowel obstruction (4-6). When mesenteric edema did not indicate the occlusive knot, strangulation ileus might be negative, but adhesive ileus might be supportive.

【Summary】

We presented a ninety-three-year-old male carried by an ambulance car for vomiting and abdominal fullness. As days went by, abdominal fulness expanded, and abdominal pain worsened. Abdomen CT day 2 depicted occlusion site between dilated small bowel and mesenteric edema. Day 4, injection of contrast medium via ileus tube indicated speedy passage of contrast medium through the occlusive site between the proximal and distal dilated bowels. It is borne in mind that incomplete occlusion found in adhesive small bowel ileus causes both small bowel dilatations of oral-side and anal-sided across occlusive site, different from in case of strangulation small bowel obstruction. Mesenteric edema does not face to constrictive knot in case of adhesive small bowel obstruction.

【References】

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