Clinical diagnosis

Case 361

Case1.
3. Strangulation hernia

【Progress】

He was transported to a regional-stem hospital where he regularly took medicine for expansive cardiomyopathy for further treatment.

Case2.
2. Adhesive ileus

【Progress】

She received ileus tube which was inserted as close as possible to occlusion site. A few days later, her symptoms improved, inducing to retrieve insertion tube.

【Discussion】

When small bowel ileus is encountered on CT, four major signs are useful to deepen the understanding of ileus quality, closed loop sign, whirl sign, beak sign, and small bowel feces sign. Especially, it is clinically imperative to judge whether the ileus is surgically applicable or not.

Closed loop sign indicative of dilated loop-figured small bowel in a closed space often appears on coronal CT. It occurs when small bowel enters to closed space and is fixed by obstruction of both of inlet and outlet (1, 2). It associates with mesenteric edema indicative of mesentery ischemia by strangulation (1, 2). This sign implies surgically applicable strangulation ileus. Although it is easy to find out the presence of closed loop sign when the cross section of closed loop is adjusted to CT cutting slice, the coincide between them is not always encountered in a clinical reality.

Whirl sign is found when small bowel with mesentery is twisted like an airplane flying around (3, 4). Although whirl sign indicates twisting small bowel or mesentery, it does not always imply the ischemia of small bowel. Then, the presence of whirl sign is not always indicative of surgically applicable.

Small bowel feces sign indicative of presence of feces in dilated small bowel whose diameter of 3.5cm or greater is found out at the adjacent site of bowel occlusion site (5, 6). Although this sign is useful to detect the occlusive site, it does not imply the surgical applicable situation.

Apart from whirl sign and small bowel feces sign, two beak signs appear in case of strangulation ileus as well as closed loop sign (6-8). It indicates two sites of small bowel occlusion; one, dilated small bowel to dilated one: another, dilated small bowel to constrictive one. One site of dilated small bowel to dilated one implies oral occlusion site. Another dilated small bowel to constrictive one implies anal occlusion site. This situation can be ischemia or not-yet-ischemia, namely bowel necrosis or bowel non-necrosis. But it can be surgically applicable. From my experiences, all cases with small bowel ileus associated with two beak signs experienced surgical resection, irrespective of endoscopic or laparoscopic.
In Case 1 associated with two beak signs and mesentery edema but without whirl sign and small bowel feces sign on CT, strangulation ileus was revealed on endoscopic surgery. Whereas, in Case 2 associated with single beak sign, whirl sign, small bowel sign but without two beaks sigh, ileus tube insertion was conducted without surgical repair, resulting in clinical improvement.
Then, it concludes that two beak sign is more useful for judgment to be surgically applicable, rather than small bowel feces sign and whirl sign.

【Summary】

We presented two cases with small bowel ileus: Case 1, strangulation ileus, another, Case 2, adhesive ileus. In Case 1, double beak sign and mesentery edema are positive, while whirl sign, negative small bowel feces sign are negative on CT. In Case 2, whirl sign, small bowel sign, and single beak sign are positive, while double beak sign is negative. It is borne in mind that double beak sign can be a reliable sign for strangulation ileus as well as closed loop sign.

【References】

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back

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