Case 370

2. Strangulation ileus

【Progress】

She received ileus tube, followed by endoscopic surgery, revealing strangulation ileus with bowel necrosis.

【Discussion】

Strangulation ileus of small bowel is an urgent situation involved in life. Its speedy, correct diagnosis is required for appropriate serving, leading to rescue life. Image diagnosis contributes to solve the situation. Strangulation ileus almost equals closed loop obstruction. There should be two constrictive stenosis like two knots formation in closed loop obstruction irrespective of mesenteric edema or not. One knot is formed by between oral dilated bowel and oral-sided closed loop dilated bowel. Another knot is formed by between anal-sided closed loop dilated bowel and anal constrictive bowel (1-3).

Two knot formation means to reflect double beak between oral bowel and closed bowel, between closed loop and anal bowel. When double beak sign is depicted on axial image, double knot is depicted on coronal or sagittal image and vice versa. However, in fact it is difficult to identify a double knot sign first, because it hardly differentiates from constrictive bowel. After finding out a double beak sign in one dimensional slice, the presence of double knot can only be confirmed in coronal or axial dimensional slice, indicative of double knot sign being useless in checking an occlusion site initially.

Double beak sign can be on either axial, coronal or sagittal dimension image. Although interpreting CT images is initiated from axial image, followed by coronal and sagittal images. The incidence of appearing double beak sign on axial image is unclear and on one another, probably one third. Therefore, it is important not to incline axial image to find occlusive site of small bowel obstruction, beak sign. Coronal and sagittal images should be checked for finding beak sign with same energy.

When small bowel diameter is dilated to 3cm or greater, small bowel obstruction is considered rather than small bowel infectious disease (4-6). Small bowel feces sign is sometimes useful to identify the occlusion site. Mesentery foggy sign is found in various disease such as sclerosing mesenteritis, congestion of mesenteric circulation, inflammatory peritonitis or tumor dissemination (4-6). Mesenteric edema formed by closed loop usually is formed along internal margin of mesentery. Mesentery edema usually faces to double beak or double knot.

In our case, double beak sign is not depicted on axial and coronal dimension but on sagittal dimension. Thereafter, double knot is confirmed on coronal and axial dimension. Mesenteric edema went toward double beak or double knot, indicative of strangulation ileus. Contrast-enhanced CT depicted enhanced closed loop bowel mural, indicative of no ischemic damage.

【Summary】

We presented a seventy-three-year-old female with massive vomiting, unable to eat anything, thereafter. Small dilated bowel whose diameter was 3cm or greater, indicative of small bowel obstruction with double beak sign with mesentery edema on sagittal CT. Endoscopic intraperitoneal operation revealed strangulation hernia. It is borne in mind that double beak sigh with two knots between dilated oral bowel and closed dilated bowel, and between closed loop bowel and anal constrictive bowel on either dimensional slice of axial, coronal or sagittal. Mesenteric edema in case of strangulation hernia goes forward double beak or double knot.

【References】

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2025.1.17