

## Case 416

### 3. Torsion ileus

#### 【Progress】

She received laparoscopic adhesiolysis for small bowel obstruction without bowel resection.

#### 【Discussion】

It is important to find out a double beak sign to diagnose whether small bowel obstruction is caused by torsion ileus or others such as adhesive ileus or paralytic ileus. Double beak sign appears most often on a coronal image compared to a sagittal image and an axial image, based on my experiences.

An axial image is sometimes very difficult to find out double beak sign. However, this case depicted double beak sign most easily on an axial image, while it was difficult to find out it on a coronal image without help of contrast with an axial image.

A closed loop sign is a characteristic image of torsion ileus (1, 2), but it is difficult to depict a whole image of closed loop on one slice of CT. Closed loop configuration should be accompanied with two beak sign: one beak sign is formed by dilated oral small intestine and dilated oral closed loop; another is formed by constrictive anal small intestine and dilated anal closed loop. Then, the presence of double beak sign indicates the presence of closed loop, namely, torsion ileus.

When dilated small bowels are encountered on CT, first, the differentiation between enteritis and small bowel dilatation is imperative (3-6). The key findings are the condition of ileum end, cecum and ascending colon. The dilatation of ileum end, cecum and ascending colon indicate the possibility of enteritis but not small bowel obstruction. Second, the small bowel diameter of 3cm or greater is also useful for diagnosis for small bowel obstruction because it rarely happens in case of enteritis (2, 3). However, the small diameter of 3cm or less occurs in the early stage of small bowel obstruction. Then, needless to say, the first finding is more important than the second for the differentiation between ileus and enteritis.

Next stage for small bowel obstruction is to find out transposition site of occlusion. The small bowel feces sign, whirl sign and small bowel mesentery edema are useful to find the transposition site (7, 8). These lead you to one of the occlusion sites, one beak sign. What is important, next, is to acknowledge that another beak sign is present adjacent with the first beak sign.

In fact, the beak sign between anal-sided-dilated closed loop and anal constrictive small bowel is usually easier to find than the beak sign between oral-sided-dilated closed loop and oral-sided dilated small bowel but can happen in vice versa. However, the knowledge of the second beak sign being present adjacent to the first beak, assists you to find another one.

## 【Summary】

We presented an eighty-four-year-old female transported by ambulance for abdominal pain. Double beak sign was depicted on axial abdomen CT, inducing she received laparoscopic adhesiolysis for torsion small bowel obstruction. It is borne in mind that the checkpoint to differentiation ileus from enteritis is the condition of cecum and ascending colon: the presence of contents in their lumen indicates enteritis: the absence of contents in their lumen, namely constriction, indicates small bowel obstruction. The dilated small bowel of 3cm or greater, also indicates small bowel obstruction. Double beak sign implies torsion ileus. The clues to find out beak sign are small bowel feces sign, whirl sign, mesentery edema. The second beak is usually present adjacent with the first beak.

## 【References】

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