

The proper regime for this patient is

Case 384

1. Infectious bowel disease

【Progress】

The patient was given antibiotics and probiotics.

【Discussion】

There is a three-rule on disorder of digestive organ passage. When you encounter small bowel whose diameter is 3cm or greater, it indicates small bowel passage disease: small bowel ileus. Dilatation of colon whose diameter is 6cm or greater indicates large bowel passage disorder: Large-bowel-ileus. Dilatation of cecum or sigmoid colon whose diameter is 9cm or greater indicates passage disorder of cecum or sigmoid colon (1, 2).

Diameters of infectious small bowels are less than 3cm in most cases but they can become 3cm or greater. Although clinical symptoms and signs are different: infectious bowel disease causes diarrhea, ileus causes constipation, it is imperative to differentiate infectious disease from ileus.

Infectious bowel disease is subcategorized into four types: upper small bowel (jejunum) type, lower small bowel (ileum) type, ileum end cecum type, and colon type (3, 4). The upper small bowel type is caused by food toxin or viruses (Norovirus, Rotavirus, Adenovirus). It is usually associated with symptoms of nausea, vomiting, and diarrhea. The lower small bowel type is caused by *Welch bacillus*, or pathogenic *E. coli* (3, 4). *Welch bacillus* habitat in raw potato. *Welch bacillus* infection occurs often after eating curry rice and meat-potato cuisine. *E. coli* is one of the intestinal flora and usually non-toxic, but it includes pathogenic *E. coli* with small incidences which cause mild diarrhea (3-5). *O157 E. coli* habitat in cow (6). Once it enters human intestine which causes severe diarrhea with hematemesis and lymph nodes swelling (6). Ileum-cecum type with local lymph nodes swelling is caused by *Yersinia*, and *Salmonella*. Colon type is caused by *Campylobacter*, *Salmonella* which causes severe diarrhea for several days. Mural edematous thickening of sigmoid colon and rectum are caused by ulcerative colitis, pseudomembranous colitis by *Clostridium difficile*, and ischemic colitis.

The image differentiation between infectious colitis and ileus is listed as below; first, it is basically important to check whether the diameter of small bowel is 3cm or greater, or not; second, in case of 3cm or greater of small bowel, it is important to check the condition of colon or ileum end whether they are dilated or constrictive or whether they contain content (fluids or feces). When they are dilated with fluids or gas, they should be judged to be no problematic with the passing of food, possible infectious bowel disease. When they are constrictive, despite of dilatation of 3cm or greater of small bowel diameter, the condition is judged to be passage disorder, ileus. In case of ileus, small bowel sign, whirl sign, beak sign, and double beak signs are useful to look for occlusion site of ileus.

【Summary】

We presented an eighty-eight-year-old male with persistent diarrhea for several days. The dilated lower small bowel of 3 cm or greater is depicted on abdomen CT, diagnosed lower infectious small bowel disease. It is borne in mind that lower infectious small bowel disease is caused by Welch bacillus and pathogenic E coli. It is imperative to check the condition of colon or ileum end whether they are dilated or constrictive or whether they contain content (fluids or feces) for differentiation between ileus and infectious bowel disease. In case of ileus, small bowel sign, whirl sign, beak sign, and double beak signs are useful to look for occlusion site of ileus.

【References】

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