Spontaneous Jejunal Perforation in Continuous Ambulatory Peritoneal Dialysis

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Dear Sir,

It is well known that the immunosuppressive status in patients with chronic renal failure results in various adverse effects. Among them, spontaneous colon perforations have been reported in some cases under hemodialysis, and the prognosis is often unpredictable and/or poor. Recently, we treated a rare case of a spontaneous jejunal perforation under continuous ambulatory peritoneal dialysis (CAPD) by an emergency laparotomy and a jejunostomy.

A 60-year-old Japanese female with chronic renal failure who had been undergoing CAPD for the last 8 years experienced a spontaneous jejunal perforation. It occurred 2 months after she was admitted to the hospital with abdominal fullness and intermittent abdominal pain. An emergency laparotomy revealed a jejunal perforation near the oral side in the middle of the small intestine (fig. 1). Therefore, a jejunostomy through the perforation using a T tube was indicated rather than a partial resection with end-to-end anastomosis.

For a period of 9 years from April 1983 to March 1992, we have used the Tenckhoff catheter 71 times for 54 cases with chronic renal failure (1-4 times per patient, an average of 1.3 times). During the same period, we treated spontaneous colon perforation in 3 cases of another group undergoing hemodialysis. However, there have been a few cases with a problem of drainage of Dialysis solution (Baxter, Ill., USA), wound infection or bacterial peritonitis as complications of the CAPD treatment.

The term CAPD was first used in 1978 by Popovich et al. [1] who reported on the treatment of 9 cases. CAPD treatment has spread

Fig. 1. Laparotomy photograph reveals wrinkled and rigid appearance of the serosal surface (forceps was inserted into the perforation).

Fig. 2. Preoperative X-ray examination of the jejunum demonstrates the findings of 'thumb-print-like' appearance.

rapidly because it is inexpensive, convenient and can also be done at home. However, in 1980, following lengthy peritoneal dialysis, Gandhi et al. [2] reported peritoneal sclerosis, and in 1981, Schmidt et al. [3] also noted unavoidable problems with long CAPD treatment.

Regarding gastrointestinal perforation, Prowant et al. [4] reported 2 cases of gastrointestinal leakage, but not in detail. When it comes to the cause of spontaneous perforation, we should consider the possibility of ischemic colitis which was observed during peritoneal dialysis by Koren et al. [5] in 1984 and also sclerosing peritonitis with mural bowel fibrosis which was reported by Hauglustaine et al. [6] in the same year. It was thought, retrospectively, that the findings of 'thumb-print-like' appearance demonstrated the coexistence of intestinal ischemia at X-ray examination of the small intestine (fig. 2).

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Once the perforation occurs, it can be diagnosed as peritonitis by the detection of intestinal contents in peritoneal fluid or physical examination. However, it is very dangerous to resect a perforated intestine by emergency laparotomy and, therefore, enterostomy or exteriorization is recommended [7].

After surgery, to repair the spontaneous gastrointestinal leakage, the switch from CAPD treatment to hemodialysis may be inevitable. However, if peritoneal sclerosis is apparent and extensive, resumption of CAPD treatment may become difficult for a while, and renal transplantation may have to be considered at the same time.

Such symptoms as abdominal distension, intermittent abdominal pain, nausea or vomiting which may suggest the coexistence of sclerosing peritonitis should be considered as risk factors of various adverse effects undergoing lengthy CAPD treatment.

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