Clinical observation of continuously subcutaneous-pumped octreotide infusion in palliative treatment of malignant bowel obstruction

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Abstract  Objective: The aim of the study was to observe the effectiveness of continuously subcutaneous-pumped octreotide infusion in palliative treatment of malignant bowel obstruction (MBO). Methods: Clinical data were retrospectively analyzed in 26 carcinoma patients complicated with MBO, in the Affiliated Hospital of Liaoning University of Traditional Chinese Medicine, China, from March 2007 to April 2009. All 26 carcinoma patients with MBO were divided into two groups: the controlling group (CG, routine therapy, 15 patients) and the octreotide group (OG, 11 patients). The octreotide group received routine therapy combined with octreotide (0.3 mg/d) by 24 hours continuously subcutaneous octreotide infusion. The changes of curative effectiveness related to symptoms, the times of recovering exsufflation and defecation, the average drain of gastrointestinal drainage tube, the duration of gastrointestinal drainage tube and the rate of extubation, were observed and compared between the two groups. Results: After treatment, remarkable changing rates of MBO related symptoms were 81.8% (9/11) in OG, and 46.7% (7/15) in CG (P < 0.05). The 78% of SG and 30% of CG recovered the exsufflation and defecation, and the mean times they needed were 3.2 d and 5.8 d, respectively (P < 0.05). The durations of gastrointestinal drainage tube of OG and CG were (5 ± 1.2) d and (10 ± 2.3) d, respectively, and the rates of extubation were 54.5% and 20%, respectively. The improvement rate in the octreotide group was better than that in the controlling group and the difference was significant (72.7% and 26.7%, P < 0.05). Conclusion: The administration of octreotide in combination with routine treatment can be very effective in the treatment of MBO. It can relieve the symptoms of MBO effectively and improve the quality of life of the end-stage patients. It has provided one kind of new treating thought and method for treatment of malignant bowel obstruction.

Key words  malignant bowel obstruction (MBO); octreotide; palliative treatment; continuously subcutaneous-pumped infusion

Malignant bowel obstruction (MBO) is a common complication of advanced or end-stage cancers. It can cause great suffering of the patients, severely it can cause death. In common treatment, gastrointestinal drainage tube and enema etc are used, but the effects are poor. The octreotide treating bowel obstruction have been reported abroad in recent years, but the domestic reports are less [1]. This study reviewed and analyzed the 26 cases of MBO in our Department (Department of Internal Oncology, Affiliated Hospital of Liaoning University of Traditional Chinese Medicine, Shenyang, China), and observe the effectiveness of continuously subcutaneous-pumped octreotide infusion in palliative treatment of MBO.

Data and methods

General Data

Cases selection and groups division

The 26 cases were selected from the patients of MBO in the Department of Internal Oncology, Affiliated Hospital of Liaoning University of Traditional Chinese Medicine, China, between March 2007 and April 2009. Of all cases, 2 cases of pancreatic cancer were clinical diagnosis, and the others were pathological diagnosis. All patients were confirmed that they did not have chance to operation. We divided all cases into two groups according to whether using octreotide, and the details were in Table 1.

Diagnostic criteria of malignant bowel obstruction

We used “Expert Consensus to Treatment of Advanced
Cancer Patients with Bowel Obstruction” 2007 edition formulated by Cancer Rehabilitation and Palliative Care Professional Committees of Chinese Anti-cancer Association: (1) malignancy; (2) no or with abdominal surgery, radiotherapy or intraperitoneal infusion therapy before; (3) intermittent abdominal pain, abdominal distension, nausea and vomiting, with or without exsufflation or defecation; (4) abdominal examination with intestine shape, abdominal tenderness, hyperactive bowel sounds or disappearance; (5) the intestine with expansion and many gas-liquid planes in X-films or CT.

Research methods

Treatments

All patients were given fasting + gastrointestinal drainage tube + intravenous rehydration and nutritional support + symptomatic medication (antispasmodic, relieving pain, antiemetic) + enema, with or without octreotide continuously subcutaneous-pumped infusion. The 0.3 mg octreotide and 0.9% sodium chloride injection were diluted 24 mL, then which was 24 hours continuously subcutaneous-pumped infusion by a pump, and the rate was 1 mL/h. After 3–5 days with octreotide continuously subcutaneous-pumped infusion, if the symptoms were not improved, it meant no effect.

Signs of extubation: condition improvement, recovery of exsufflation, disappearance of abdominal distension, and recovery of peristalsis.

Outcome measures

We observed the symptoms changes of two groups (abdominal pain, abdominal distension, nausea and vomiting), the times of recovering exsufflation and defecation, the average drain of gastrointestinal drainage tube, the duration of gastrointestinal drainage tube and the rate of extubation.

The scores standard of symptoms of bowel obstruction

The scores were according to the severity and frequency of abdominal pain, abdominal distension, nausea and vomiting: 0 score: no symptoms; 1 score: occasionally, mild; 2 score: always, moderate; 3 score: persistent, severe.

The effect standard of symptoms was as follows: (1) Significant improvement: the symptoms was disappeared or the scores decreased 2 after treatment; (2) Part improvement: the scores of symptoms were decreased 1 after treatment; (3) No improvement: the scores of symptoms were not decreased after treatment.

The effect evaluation of bowel obstruction

Complete remission: complete disappearance of the symptoms and signs of bowel obstruction, smooth exsufflation and defecation, no abdominal pain and distension after eating, the intestine without expansion and the gas-liquid plane disappearance in abdominal X films. Improvement: obvious disappearance of the symptoms and signs of bowel obstruction, partial remission of signs of bowel obstruction in X films. No effect: no mitigation or aggravation of symptoms, signs and signs in X films of bowel obstruction. The effect was complete remission and improvement.

Statistical methods

The measurement data were expressed by mean ± standard deviation. The paired t test was used before and after treatment, and t test was used in groups. Rank sum test was used in level data. A P < 0.05 was defined statistical significance.

Results

The scores of abdominal pain, abdominal distension, nausea and vomiting before and after treatments in two groups

After treatment, in the octreotide group, patients with score of 0 point increased in 2 cases, and those of 1 point increased in 5 cases. In the control group, patients with scores of 1 point increased in 2 cases, and those of scores of 2 increased in 2 cases (Table 2).

The times of recovering exsufflation and defecation

The rate of recovering exsufflation was 78% in octreotide group, and the average time was 3.2 days. The