PO Box 2345, Beijing 100023, China
www.wjgnet.com
wjg@wjgnet.com

World J Gastroenterol 2007 April 7; 13(13): 2002-2003
World Journal of Gastroenterology ISSN 1007-9327

CASE REPORT

Treatment of pediatric Ogilvie's syndrome with low-dose erythromycin: A case report

Da-Peng Jiang, Zhao-Zhu Li, Sheng-Yang Guan, Yu-Bo Zhang

Da-Peng Jiang, Zhao-Zhu Li, Sheng-Yang Guan, Yu-Bo Zhang, Department of Pediatric Surgery, Second Affiliated Hospital of Harbin Medical University, Harbin 150086, Heilongjiang Province, China
Correspondence to: Da-Peng Jiang, Department of Pediatric Surgery, Second Affiliated Hospital of Harbin Medical University, #246 Xuefu Road, Harbin 150086, Heilongjiang Province, China. jdp509@163.com
Telephone: +86-451-86605247
Received: 2007-01-18 Accepted: 2007-03-05

Abstract

Acute colonic pseudo-obstruction is a poorly understood syndrome, characterized by the signs, symptoms and radiological pattern of a large bowel obstruction without evidence for a mechanical obstruction. We report a case of a 2-year old boy who presented with progressive abdominal distention, vomiting and abdominal pain on postoperative d 3. Plain abdominal X-ray showed markedly dilated large bowel. Mechanical colonic obstruction was ruled out with hypaque enema. Ogilvie's syndrome was suspected. The patient received treatment with oral erythromycin which had an immediate beneficial effect. During the 6 mo follow-up, no recurrences of symptoms were observed. We provide a safe and effective therapy for Ogilvie's syndrome in pediatric individuals.

Key words: Acute colonic pseudo-obstruction; Erythromycin; Abdominal distention; Prokinetic agent

Jiang DP, Li ZZ, Guan SY, Zhang YB. Treatment of pediatric Ogilvie's syndrome with low-dose erythromycin: A case report. *World J Gastroenterol* 2007; 13(13): 2002-2003

http://www.wjgnet.com/1007-9327/13/2002.asp

INTRODUCTION

Acute colonic pseudo-obstruction (ACPO), also known as Ogilvie's syndrome, is a disorder characterized by massive dilation of the colon in the absence of mechanical obstruction. William H Ogilvie first observed and reported this rare ileus[1]. It typically occurs in patients with serious illnesses, trauma, burns, surgery and infection. Most cases of it recover after conservative management, but the patient with distended abdomen is at risk of developing cecal perforation, peritonitis and nutritional depletion[2]. We present here the successful treatment of Ogilvie's syndrome with low-dose erythromycin in a child.

CASE REPORT

A 2-year old boy was admitted with diagnosis of tuberculosis located at the first lumbar vertebra. After removal of tuberculous foci an acellular bone was fixed. The procedure was performed under general anesthesia and the operation was successful. On postoperative d 3 the patient developed progressive abdominal distention, vomiting and abdominal pain. Physical examination showed that he had a temperature of 37.9℃, a regular pulse of 118 beats/min and poor nutrition. His abdomen was distended and tympanitic to percussion but soft with no tenderness, rebound or guarding. Bowel sounds were present. Laboratory findings were as follows: 10.7×10^9/L white blood cells, 267×10^9/L platelets, 108 g/L hemoglobin, 34 IU/L alanine aminotransferase, 4.3 mmol/L K^+, 140 mmol/L Na^+, 2.4 mmol/L Ca^2, 0.92 mmol/L Mg^{2+}. Plain abdominal X-ray showed markedly dilated large bowel (Figure 1). Mechanical colonic obstruction was ruled out with hypaque enema. The diagnosis of Ogilvie's syndrome was established according to the clinical and radiographic findings.

The patient was treated with intravenous benzyl penicillin, nasogastric decompression and intravenous fluids. Drugs affecting colonic motility were discontinued. When the patient did not respond to 30 h of conservative therapy, nasogastric tube was occluded and oral erythromycin (50 mg four times a day) was started. Within 36 h, the patient began to pass flatus and large volumes of stool with rapid resolution of his abdominal distention. Further radiography and physical examination showed resolution of the colonic pseudo-obstruction. Erythromycin was continued for 3 d with no recurrence of colonic dilation. He recovered with no complication and was discharged in excellent condition. During the 6 mo follow-up, he was well with no gastrointestinal symptoms.

DISCUSSION

Ogilvie's syndrome is a severe form of colonic ileus without evidence for mechanical obstruction[3]. Although Ogilvie's syndrome has been extensively described in the literature, the precise mechanisms underlying acute pseudo-

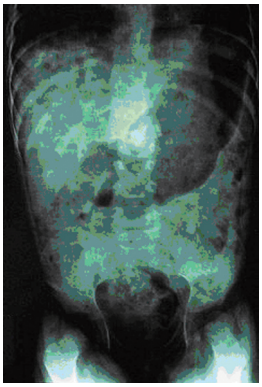

Figure 1 Plain abdominal X-ray of the patient showing massive dilatation of the large bowel.

obstruction are still controversial[4]. It often arises in patients with severe infections, retroperitoneal hemorrhage during spinal or pelvic surgery, trauma, burns and narcotic administration[2]. Spinal surgery might contribute to the pathogenesis of the syndrome in our patient. Nausea, vomiting, abdominal pain and abdominal distension are the most common features of Ogilvie's syndrome. Its diagnosis is sometimes delayed in children, so that many patients are still not properly treated and have a significant mortality[4].

In most cases, conservative management consisting of nasogastric decompression, intravenous fluid, and correction of electrolyte abnormalities can resolve ileus. If unsuccessful, the patient is at risk of developing perforation and colonoscopic decompression is indicated. This method fails in approximately 12%-27% of patients and has a recurrence rate of 18%-33%[5]. It is necessary to find a safe and effective therapy for Ogilvie's syndrome.

Erythromycin, a macrolide antibiotic, is known to stimulate gastric and small bowel motor activity by binding to the motilin receptor and inducing smooth muscle contraction through a nifedipine-sensitive mechanism[6,7]. However, the short half-life of erythromycin and the rapid onset of tachyphylaxis hamper its broad application in treatment of Ogilvie's syndrome. There are only a few reports on the efficacy of erythromycin in Ogilvie' s syndrome in adults[8,9]. No recurrence has been observed in these described cases. Neostigmine, an acetylcholinesterase inhibitor, has emerged as an effective pharmacyologic alternative for pseudo-obstruction[2]. However, patients eligible for neostigmine must have their potentially mechanical obstruction ruled out. Neostigmine should not be used if a recently sealed-off duodenal or colonic perforation is unplugged by strong peristalsis. The side-effects of cholinesterase inhibitors include salivation, nausea, vomiting, abdominal pain, bradycardia, hypotension and bronchospasm. During the infusion of neostigmine, patients should undergo cardiac monitoring, and atropine should be available. Finally, severely impaired renal function prolongs the elimination of neostigmine.

In conclusion, this report introduces the first successful treatment of Ogilvie's syndrome with low-dose erythromycin in a child. It may be a safe and effective therapy for children with this disorder.

REFERENCES

1 **Ogilvie WH**. William Heneage Ogilvie 1887-1971. Large-intestine colic due to sympathetic deprivation. A new clinical syndrome. *Dis Colon Rectum* 1987; **30**: 984-987

2 **Gmora S**, Poenaru D, Tsai E. Neostigmine for the treatment of pediatric acute colonic pseudo-obstruction. *J Pediatr Surg* 2002; **37**: E28

3 **Singh S**, Nadgir A, Bryan RM. Post-cesarean section acute colonic pseudo-obstruction with spontaneous perforation. *Int J Gynaecol Obstet* 2005; **89**: 144-145

4 **De Giorgio R**, Barbara G, Stanghellini V, Tonini M, Vasina V, Cola B, Corinaldesi R, Biagi G, De Ponti F. Review article: the pharmacological treatment of acute colonic pseudo-obstruction. *Aliment Pharmacol Ther* 2001; **15**: 1717-1727

5 **Saunders MD**, Cappell MS. Endoscopic management of acute colonic pseudo-obstruction. *Endoscopy* 2005; **37**: 760-763

6 **Curry JI**, Lander TD, Stringer MD. Review article: erythromycin as a prokinetic agent in infants and children. *Aliment Pharmacol Ther* 2001; **15**: 595-603

7 **Costalos C**, Gounaris A, Varhalama E, Kokori F, Alexiou N, Kolovou E. Erythromycin as a prokinetic agent in preterm infants. *J Pediatr Gastroenterol Nutr* 2002; **34**: 23-25

8 **Armstrong DN**, Ballantyne GH, Modlin IM. Erythromycin for reflex ileus in Ogilvie's syndrome. *Lancet* 1991; **337**: 378

9 **Rovira A**, López A, Cambray C, Gimeno C. Acute colonic pseudo-obstruction (Ogilvie's syndrome) treated with erythromycin. *Intensive Care Med* 1997; **23**: 798

S- Editor Liu Y **L- Editor** Wang XL **E- Editor** Che YB