Austin Journal of Emergency and Critical Care Medicine

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Austin Publishing Group

Case Report

Acute Roux Stasis Syndrome and Effective Treatment with Octreotide

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Received: July 22, 2015; **Accepted:** September 08, 2015; **Published:** September 12, 2015

Abstract

Acute Roux Stasis Syndrome (ARSS) is a rare complication after long term surgery that can have life threatening consequences. In this case, the patient was a 58 year-old man who after birth underwent through a distal gastrectomy with Roux en Y - Gastrojejunostomy reconstruction for early born gastric atresia. He presented with signs of severe sepsis and respiratory failure due to aspiration pneumonia. The patient was diagnosed of ARSS no suitable for surgery due to haemodynamic instability. After unsuccessful feeding with nasojejunal enteral nutrition and still persisting bloating and vomiting due to the ARSS, use of compassionate somatostatin analogue (octreotide) was considered, which has been reported as an effective therapy for other complications of long term surgical procedures. Gastric secretions were monitored before and during this treatment. Octreotide therapy resulted in significant reduction of gastric secretions allowing the improvement of the patient. Octreotide could be considered as a conservative management for these patients.

Introduction

Roux Stasis Syndrome was firstly described in 1985 by Matias et al. [1] for those patients that previously had a Roux en Y - Gastrojejunostomy and presented chronic abdominal pain, persistent nausea, and intermittent vomiting worsened by eating either solids or liquids. These patients were often regarded as having psychosomatic disease or a dependency for opiates as an explanation for their clinical syndrome. They observed that these patients had continued symptoms with no visible evidence of obstructing disease and their bowel activity was absent or severely disrupted in the Roux limb of the Roux-en-Y reconstruction. Other authors reported larger series of patients with this syndrome suggesting that the Roux Stasis Syndrome had a shared origin related to delayed gastric emptying and/or Roux limb motility abnormalities that may be exacerbated when vagotomy or transection of the jejunum occurred in the surgical procedure [2-4]. This troublesome postgastrectomy syndrome has increased its prevalence due to bariatric operations or terminal cancer bowel obstruction [5]. Divisions of the vagal innervation to the stomach and ablation or bypass of the pylorus are the most significant factors contributing to postgastrectomy syndromes. Studies' using high-resolution manometry or radionuclide test show that motor activity is always detectable at the proximal Roux-en-Y, but peristalsis is abnormal in most patients [6].

There are several surgical techniques proposed to solve this syndrome [7] but not very many effective medical options [8]. Clinical improvement has been observed with Tegaserod [9] or a pharmacologic approach made up of analgesics, antiemetics and antisecretory drugs. Among the antisecretory drugs, octreotide has been shown to reduce nausea and vomiting in other long term surgical derivative techniques [10,11] but, in acute scenarios, in which the patient cannot tolerate surgery or nasojejunal tube is not effective, it has not been described.

Case Presentation

We present a case of a 58 years old gentleman, with a medical background of distal gastrectomy with Roux en Y - Gastrojejunostomy reconstruction as infant of 4 days, smoker with severe emphysema, asthma and alcohol abuse. Admitted to intensive care unit with type 1 Respiratory failure due to a severe pneumonia. He had had a recent OGD due to weight loss, vomiting and watery diarrhoea, and finding large gastric aspirates during procedure. During his admission he developed multiorgan failure due to several aspiration pneumonias requiring respiratory, cardiovascular and renal support, improving within the next days, with the main issue of prolonged ventilatory support (requiring percutaneous tracheostomy). Parenteral nutrition was started on the 5th day due to non absorbing enteral nutrition and high gastric residual volumes (2000-3000mls/24h). He was covered on antibiotics and Tuberculosis treatment despite not having positive culture results. Mechanical obstruction was ruled out on CT contrast of chest–abdomen and oesophageal gastroduodenoscopy. Nasojejunal tube was placed in two unsuccessfully. Despite multidisciplinary assessment, and full treatment with antiemetics, prokinetics, pantoprazole and ranitidine, a trial with octreotide was considered as a compassionate therapy, with the outcome of clear decrease of gastric fluid production, improving also on pulmonary function.

Methods

This observational and retrospective study was performed during 67 days until the patient was discharged from the Intensive Care Unit. Gastric content was measured 4 times a day through the nasogastric tube or gastric port of the nasojejunal tube. As per protocol, gastric content was reintroduced up to 200 ml. Informed Consent for this study was obtained from the patient, as well as his consent for compassionate use of Octreotide, before considering other surgical options. Statistical analysis was performed with Excel 2010 by the Test of Kolmogorov, Levene and ANOVA.

Citation: Martín-Lázaro JF, Cevallos J, Fuertes C, Renukanthan A and Mateo D. Acute Roux Stasis Syndrome and Effective Treatment with Octreotide. Austin J Emergency & Crit Care Med. 2015; 2(4): 1028.

Results

During the period of study, the patient went through two episodes of severe sepsis due to aspiration pneumonias secondary to the ARSS. Haemodynamic stability was achieved by fluid resuscitation and inotropes. Physiologic variations due to these conditions were minimized with parenteral nutrition and increasing the period of study. Octreotide treatment was not started until the patient was completely stable and all of other conservative measures were proved unsuccessful.

Octreotide was started on day 23 at a dose of 50 mcg, subcutaneous, three times a day during the rest of the days of study. Mean nasogastric aspirates started decreasing after the third day with a mean pretreatment of 1797,61 ml/day to 352,63 ml/day after Octreotide treatment with a statistical significance of 0.0004. Vomiting and bronchial aspirations were successfully controlled after three days of treatment, without adverse effects. Octreotide was effective and well tolerated in the ARSS.

Discussion

This acute onset of the Roux Stasis Syndrome had not been yet described, considering that the RSS was more a chronic problem causing discomfort than a possible life threatening complication.

As we demonstrated there was not an obstructive problem, and the RSS turned into an increase of the gastric secretions, either by production or by motor disturbances, that put in risk the life of the patient.

Persistent postoperative Roux stasis syndrome could be managed surgically by near-total gastrectomy but not always results in symptomatic improvement. Nevertheless a surgical approach was proposed but due to the un-stability of the patient it could not be performed. Anatomic and physiological changes introduced by gastric surgery result in postgastrectomy syndromes in approximately 20% of patients. Most of these disorders are caused by operation-induced abnormalities in the motor functions of the stomach, including disturbances in the gastric reservoir function, the mechanical-digestive function, and the transporting function. Either rapid or slow emptying may result, depending on the relative importance of lack of a compliant gastric reservoir, loss of an effective contractile force, and loss of controlling factors that slow or speed gastric emptying and result in duodenal-gastric reflux. Clearly defining which syndrome is present in a given patient is critical to develop a rational treatment plan and an acute onset of the RSS is difficult to suspect. In syndromes with slow gastric emptying, bilious vomiting, or alkaline reflux gastritis, the use of endoscopy is essential to rule out mechanical causes of the syndrome. Contrast radiography and scintigraphic gastric emptying studies are useful to document rapid or delayed gastric emptying. Postgastrectomy syndromes often abate with time and that is why conservative measures, including medical, dietary, and behavioral therapy, should be given at least a 1-year trial, unless acute severe complications cause the deterioration of the patients. If these non-operative measures fail, surgical therapy is recommended [12].

Under critical condition of RSS in which surgical intervention cannot be performed a conservative measure with Octreotide could be an option until the patient is stabilized and recovered.

References

1. Mathias JR, Fernandez A, Sninsky CA, Clench MH, Davis RH. Nausea, vomiting, and abdominal pain after Roux-en-Y anastomosis: motility of the jejunal limb. Gastroenterology. 1985; 88: 101-107.
2. van der Mijle HC, Beekhuis H, Bleichrodt RP, Kleibeuker JH. Transit disorders of the gastric remnant and Roux limb after Roux-en-Y gastrojejunostomy: relation to symptomatology and vagotomy. Br J Surg. 1993; 80: 60-64.
3. McAlhany JC Jr, Hanover TM, Taylor SM, Sticca RP, Ashmore JD Jr. Long-term follow-up of patients with Roux-en-Y gastrojejunostomy for gastric disease. Ann Surg. 1994; 219: 451-455.
4. van der Mijle HC, Kleibeuker JH, Limburg AJ, Bleichrodt RP, Beekhuis H, van Schilfgaarde R. Manometric and scintigraphic studies of the relation between motility disturbances in the Roux limb and the Roux-en-Y syndrome. Am J Surg. 1993; 166: 11-17.
5. Decker GA, DiBaise JK, Leighton JA, Swain JM, Crowell MD. Nausea, bloating and abdominal pain in the Roux-en-Y gastric bypass patient: more questions than answers. Obes Surg. 2007; 17: 1529-1533.
6. Herbella FA, Silva LC, Vicentine FP, Patti MG. Roux-en-Y limb motility after total gastrectomy. J Gastrointest Surg. 2014; 18: 906-910.
7. Behrns KE, Sarr MG. Diagnosis and management of gastric emptying disorders. Adv Surg. 1994; 27: 233-255.
8. van der Mijle HC, Beekhuis H, Bleichrodt RP, Kleibeuker JH. Transit disorders of the gastric remnant and Roux limb after Roux-en-Y gastrojejunostomy: relation to symptomatology and vagotomy. Br J Surg. 1993; 80: 60-64.
9. Gujar P, Remde A, DeAntonio JR. Roux stasis syndrome: clinical improvement with Tegaserod. J Clin Gastroenterol. 2005; 39: 550-551.
10. Ripamonti C, Panzeri C, Groff L, Galeazzi G, Boffi R. The role of somatostatin and octreotide in bowel obstruction: pre-clinical and clinical results. Tumori. 2001; 87: 1-9.
11. Shima Y, Yamaguchi K, Miyata Y, Hyodo I, Yagi Y, Honke Y. A clinical study using octreotide in relieving gastrointestinal symptoms due to bowel obstruction in a terminally ill cancer patient. Gan To Kagaku Ryoho. 2004; 31: 1377-1382.
12. Eagon JC, Miedema BW, Kelly KA. Postgastrectomy syndromes. Surg Clin North Am. 1992; 72: 445-465.

Austin J Emergency & Crit Care Med - Volume 2 Issue 4 - 2015
ISSN : 2380-0879 | www.austinpublishinggroup.com

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