

Laparoscopic Management of Gastric Outlet Obstruction Secondary to Spasmo-proxyvon Addiction

Mohit Sharma¹, Rachhpal Singh²

ABSTRACT

Aim and objective: Spasmo-proxyvon addiction-induced gastric complication has been sparsely discussed in the literature. This study highlights the laparoscopic management of gastric outlet obstruction secondary to spasmo-proxyvon abuse.

Materials and methods: From January 2015 to May 2020, 16 patients presenting with gastric outlet obstruction due to spasmo-proxyvon addiction were managed with laparoscopic truncal vagotomy and gastrojejunostomy. Preoperative data, immediate outcome, and long-term results were analyzed.

Results: All the 16 patients managed with laparoscopic truncal vagotomy and antecolic posterior gastrojejunostomy were male patients. Median age was 36.5 years and median duration of addiction was 25.5 months. The mean operative time was 139.30 minutes. There was no conversion to laparotomy. There was no intra and immediate postoperative mortality. Two patients had delayed gastric emptying in the immediate postoperative period. Median follow-up was 37.30 months. All the patients had significant improvement in oral intake and weight gain. One patient died due to severe anorexia, malnutrition, and generalized anasarca secondary to resumption of drug abuse one year after surgery.

Conclusion: Laparoscopic truncal vagotomy and gastrojejunostomy is a useful mean to manage gastric outlet obstruction secondary to spasmo-proxyvon addiction. This method results in satisfactory perioperative and optimal long-term outcome.

Keywords: Gastric outlet obstruction, Gastrojejunostomy, Laparoscopy, Spasmo-proxyvon addiction, Truncal vagotomy.

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INTRODUCTION

Spasmo-proxyvon is a popular brand of antispasmodic analgesic from Wockardt. It contains acetaminophen (400 mg), dicyclomine (10 mg), and dextropropoxyphene (400 mg). It comes in the category of banned drug but is available illegally as a gelatin capsule and is of rampant abuse in Punjab.¹ A regional report from Indian subcontinent reported the abuse of propoxyphene in 64% of male drug abusers.² The heavy ingestion of acetaminophen is associated with peptic ulceration of stomach with a potential to cause gastric outlet scarring.^{3,4} Similarly, frequent use of opium or its derivatives is associated with gastric outlet obstruction.^{5,6} Gastric outlet obstruction is defined as the obstruction in the antropyloric region or in the bulbar or postbulbar duodenal segment.⁷ We report our experience in the laparoscopic management of gastric outlet obstruction secondary to spasmo-proxyvon addiction.

MATERIALS AND METHODS

This study is the retrospective analysis of prospectively collected data of spasmo-proxyvon addict patients admitted with complaints of abdominal pain, persistent vomiting, and bleeding in surgical ward of a tertiary hospital from January 2015 to May 2020. Patients diagnosed with pyloric antrum perforation, ulcer bleed, and severely malnourished cases requiring feeding jejunostomy were excluded from the analysis. Records of 16 patients with feature of gastric outlet obstruction managed with laparoscopic truncal vagotomy and gastrojejunostomy were analyzed. All patients were managed in a multidisciplinary set up comprising medical gastroenterologist, surgical gastroenterologist, psychiatrist, and nutritional therapist. All patients with symptoms of gastric outlet obstruction were evaluated with upper G.I endoscopy (Fig. 1)

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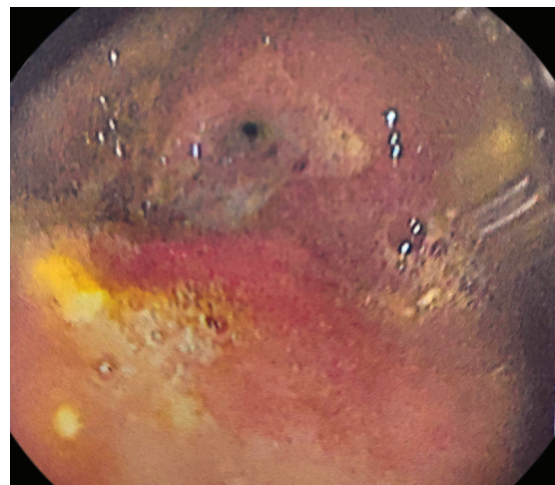


Fig. 1: Pyloric stenosis

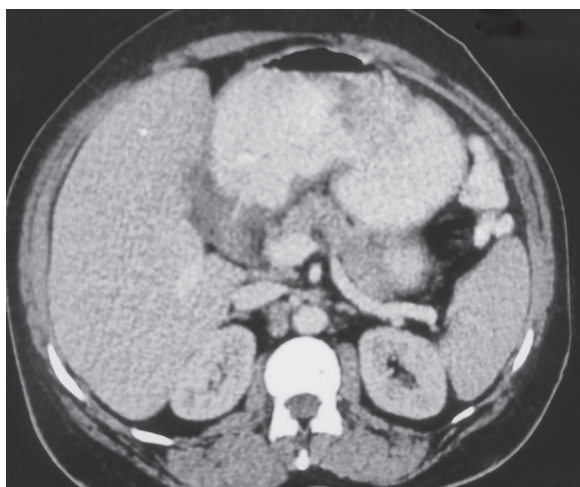


Fig. 2: CT scan pyloric stenosis

and contrast enhanced CT scan abdomen (Fig. 2). This was done to know the site of stricture and exclude any neoplastic etiology. The inclusion criteria for the surgery were (1) symptomatic gastric outlet obstruction with postprandial vomiting; (2) narrowing of the pyloric antrum or duodenum on endoscopy and CT scan abdomen; (3) complete abstinence from drug abuse (minimum 4 weeks); and (4) serum albumin ≥ 3.0 g/dL. Patients with significant malnutrition and active drug abuse were managed with feeding jejunostomy with the intention of gastrojejunostomy later after optimizing nutritional status and achieving complete abstinence from drug intake. The patient is placed in a supine reverse trendelenberg position with legs far apart. The operating surgeon stands between legs. Our standard procedure is 5 trocar approach—one 10 mm supraumbilical camera port, one 12 mm port right upper quadrant mid clavicular line, and three 5 mm ports—one epigastric port for left liver lobe retraction, and two left upper abdominal quadrant working ports in mid-clavicular and anterior axillary line, respectively. Harmonic scalpel was used for the division of gastrohepatic ligament and division of anterior and posterior truncal vagotomy. After the division of gastrocolic omentum, antecolic isoperistaltic posterior gastrojejunostomy was done using an Echelon Flex Endopath stapler using 60-mm (blue) cartridge, and common enterotomy was closed using an intracorporeal continuous polydioxane 2-0 suture. Postoperatively nasogastric tube was removed on day one. Oral liquid diet was started on day two, which was gradually progressed to semisolid diet. Patients were usually discharged by day five. Statistical analysis was done using the statistical package for social sciences (SPSS) version 20.0 for windows.

RESULTS

From January 2015 to May 2020, 27 patients of spasmo-proxyvon addiction with complaints of abdominal pain, persistent vomiting, and bleeding were admitted in surgical ward of a tertiary hospital. Of these 27 patients, four cases presented with prepyloric perforation and two cases with persistent duodenal ulcer bleed after failure of endoscopic therapy. Five cases were managed with feeding jejunostomy alone. These 11 patients were excluded from analysis. Remaining 16 patients with the feature of gastric outlet obstruction were managed with laparoscopic truncal vagotomy

and gastrojejunostomy. All were male patients, median age was 36.5 years, and median duration of addiction was 25.5 months. The mean operative time was 139.30 minutes. There was no conversion to laparotomy. There was no intra and immediate postoperative mortality. Two patients had delayed gastric emptying in the immediate postoperative period. One patient was managed conservatively with intravenous fluids and metoclopramide therapy. Another patient did not respond to conservative management and required feeding jejunostomy on postoperative day ten for maintaining enteral nutrition. He showed improvement with jejunostomy feeds and prokinetic agents and was gradually started on oral diet. Mean duration of hospital stay was 7.81 days (range 6–15 days). Median follow-up was 37.30 months. All the patients had significant improvement in oral intake and weight gain. One patient died due to severe anorexia, malnutrition, and generalized anasarca secondary to resumption of drug abuse one year after surgery.

DISCUSSION

Gastric outlet obstruction caused by peptic ulcer disease is a rare disease; approximately 1–2% of peptic ulcer disease patient will require surgical therapy due to gastric outlet obstruction.⁸ The chronic nonsteroidal antiinflammatory drug use is significantly associated with gastric outlet obstruction.⁹ Spasmo-proxyvon is antispasmodic analgesic that contains acetaminophen (400 mg), dicyclomine (10 mg), and dextropropoxyphene (400 mg). It is of significant abuse in Punjab, India.^{1,10} Pharmacologically none of the salt composition in spasmo-proxyvon comes into the category of NSAIDs. However, as shown in our study, significant complications of peptic ulceration occurred in spasmo-proxyvon addict patients. Probably, it is the acetaminophen content and dextropropoxyphene (opium derivative) contributing to peptic ulceration. Piper et al.⁴ have shown strong positive association between heavy intake of acetaminophen and gastric ulcer with relative risk of 24.4. Appasani et al.⁵ and Aggarwal et al.,⁶ in their studies on gastric outlet obstruction, have also listed opium and its derivatives as one of the causes of gastric outlet obstruction.

Vagotomy and antrectomy have been regarded as the most effective operation for complications of peptic ulcer surgery.¹¹ In cases of peptic ulcers complicated by gastric outlet obstruction, truncal vagotomy with pyloroplasty or gastrojejunostomy are suggested alternatives.¹² Radovanovic et al.¹³ and Csendes et al.¹⁴ have suggested highly selective vagotomy and gastrojejunostomy as the effective treatment for peptic ulcer-induced gastric outlet obstruction. Minimal access surgery is being used routinely for truncal vagotomy and gastrojejunostomy with the reduction in morbidity and mortality.^{15,16} In our study, we have done stapler posterior gastrojejunostomy with intracorporeal suturing of common enterotomy with no mortality and minimal morbidity (delayed gastric emptying in two cases). Similar results have been shown by other authors.¹⁷

Endoscopic balloon dilatation is an alternative nonsurgical method to manage gastric outlet obstruction in peptic ulcer disease.¹⁸ The main drawback of endoscopic balloon dilatation is that it requires multiple sessions compared to one time surgical procedure. Also, long-term follow-up results of balloon dilatation therapy are scanty in the literature. In a series on endoscopic balloon dilatation therapy in gastric outlet obstruction by Noor et al.¹⁹ median follow-up duration was only 12 months. Moreover, results of endoscopic balloon dilatation vary with etiology of gastric outlet obstruction.

In their study on endoscopic balloon dilatation therapy, Kochhar and Kochhar²⁰ have shown that medications-induced strictures are not only slow to respond but also have the tendency to recur; in our study, the mean follow-up was 37.30 months. All the patients had significant improvement in oral intake and weight gain. In our series, gastric outlet obstruction was secondary to spasmo-proxyvon addiction; therefore, we kept the patients on monthly follow-up for initial six months. Psychiatrist was opined in every visit to ensure compliance of drug abstinence. One of our patients reverted to drug abuse one year after surgery, he succumbed to severe anorexia, malnutrition, and generalized anasarca. In our exhaustive review of literature, we have not encountered any study on surgical management of spasmo-proxyvon addiction. To the best of our knowledge, this is the first ever study on laparoscopic management of gastric outlet obstruction secondary to spasmo-proxyvon addiction.

CONCLUSION

Spasmo-proxyvon abuse-induced gastric outlet obstruction can be successfully managed with minimally invasive surgical means. The laparoscopic approach results in good immediate symptomatic results and satisfactory long-term outcome.

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