



CASE REPORT

Palliative Treatment of Unresectable Pancreatic Carcinoma Presenting as Gastric Outlet Obstruction: What to Expect?

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Abstract

Gastric outlet obstruction is a surgical emergency that presents with epigastric pain and intractable non-bilious vomiting. As per a recent literature review, the leading cause of gastric outlet obstruction is malignancy. This report presents a patient with grade two pancreatic adenocarcinoma who presented with gastric outlet obstruction symptoms: a potentially life-threatening complication of disease progression. The patient experienced severe epigastric pain and intractable projectile non-bilious vomiting. Computed Tomography confirmed the cause of severe pain and vomiting as gastric outlet obstruction. The patient was successfully managed with laparoscopic palliative gastro-jejunostomy and jejunostomy. Here is the first case reported in the kingdom of Bahrain, where a patient with pancreatic cancer presented with symptoms of gastric outlet obstruction. The case report aimed to increase awareness amongst health practitioners regarding the presentation of pancreatic cancer.

Keywords: Adenocarcinoma; Gastric Outlet Obstruction; Jejunostomy; Laparoscopy; Pancreatic Carcinoma

Introduction

Gastric outlet obstruction is a clinical syndrome characterized by epigastric abdominal pain and postprandial vomiting due to mechanical obstruction. Malignant gastric outlet obstruction must be included in the differential diagnosis when patients with advanced gastrointestinal malignancy present with obstructive upper gastrointestinal symptoms.¹ Peptic ulcer was considered the most common cause of gastric outlet obstruction in the late 1970s; however, the incidence of gastric outlet obstruction is now present in 50 to 80 % of

malignant cases.² Patients with pancreatic cancer constitute 15 to 25% of those who experience malignant gastric outlet obstruction.³

Case presentation

A 63-year-old male patient with comorbidities of diabetes and hypertension was recently diagnosed with grade 2 pancreatic adenocarcinoma in December 2019. The patient's surgical history included a cholecystectomy in 2016. The patient underwent an Endoscopic retrograde cholangiopancreatography in December 2019 which concluded

an inoperable staging of disease; therefore, was treated with 3 cycles of FOLFIRINOX (folinic acid 400 mg/m², fluorouracil bolus dose 400 mg/m² and infusion 2400mg/m², irinotecan 180 mg/m², oxaliplatin 85 mg/m²). Due to severe abdominal pain, the patient was referred to the hospital's palliative care team for further pain management. Oxynorm 15 mg q4H, pregabalin 75 mg q12H, and paracetamol 1g q6H was started.

Strong opioids were titrated as per the World Health Organization analgesic ladder. Morphine was administered via Morphine sulphate slow release (MST) continuously at a dosage of 30mg q8H; which was escalated over two weeks to 60mg q8H. After a month, the patient presented again with sudden severe upper abdominal pain, which was not relieved by strong opioids. The consulting physician discussed the procedure, benefits, risks, and possible complications of celiac plexus neurolysis with the patient. Following the patient's consent, C-ARM-guided celiac plexus neurolysis was carried out uneventfully. The pain was greatly reduced, and the patient was comfortable on oral morphine MST 30mg q12hrs, pregabalin 75mg q12hrs, morphine syrup 5 ml q6hrs and was discharged on the same regimen.

One month after the celiac axis neurolysis, the patient presented to the emergency department with severe, diffuse abdominal pain. On clinical examination of the abdomen, tenderness and rigidity in the left lower quadrant region (the patient had previously experienced pain in the right lower quadrant which improved after the celiac plexus block) was observed. Intravenous hydration was started along with total parenteral nutrition. Further examination with Computed Tomography (Figures 1 & 2) showed luminal narrowing at the third part of the duodenum, causing proximal duodenal and stomach dilatation, which were indicative of gastric outlet obstruction. As the stomach was hugely dilated, a nasogastric tube was inserted, and immediate decompression was performed with the aspiration of 1.5 liters of gastric content. The patient was monitored by the Hepatobiliary team in view of the inoperable nature of the disease and was offered a palliative laparoscopic gastro-jejunostomy and jejuno-jejunostomy. The patient consented to the procedure, and two days post-

operatively, he was able to resume feeding and was then discharged in a stable condition.

One month later, the patient presented to the emergency department again due to reduced appetite, reduced urine output, and jaundice. Laboratory investigations revealed acute kidney injury, jaundice, and ascending cholangitis leading to septic shock. An abdominal ultrasound showed a mildly dilated common bile duct of 9 mm; therefore, Percutaneous transhepatic biliary drainage was performed. Two weeks later, the patient developed dizziness, hypotension (Blood Pressure was 85/50 mmHg), and hyponatremia with a sodium level of 129 mmol/L. Intravenous hydration was initiated along with antibiotics. The patient's condition deteriorated with increased instances of vomiting and severe abdominal pain. A gastrografin study showed complete obstruction at the site of surgical anastomosis due to advancing tumor invasion in the jejunum at the gastric outlet. A feeding jejunostomy was performed as an alternative route of nutrition. His clinical condition deteriorated over a period of 2 weeks, after which he passed away due to progression of the disease.

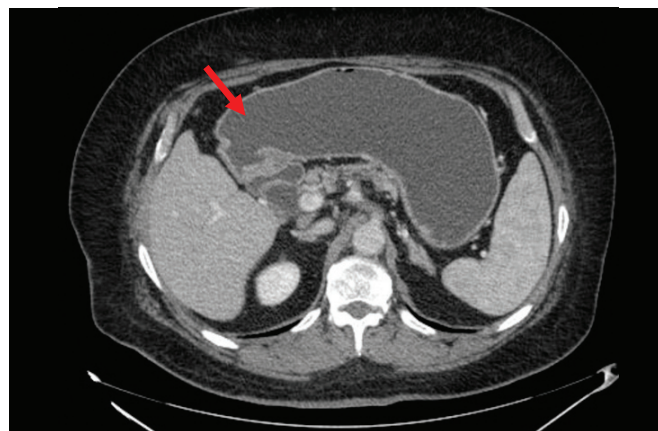


Figure 1: Axial section showing a dilated stomach

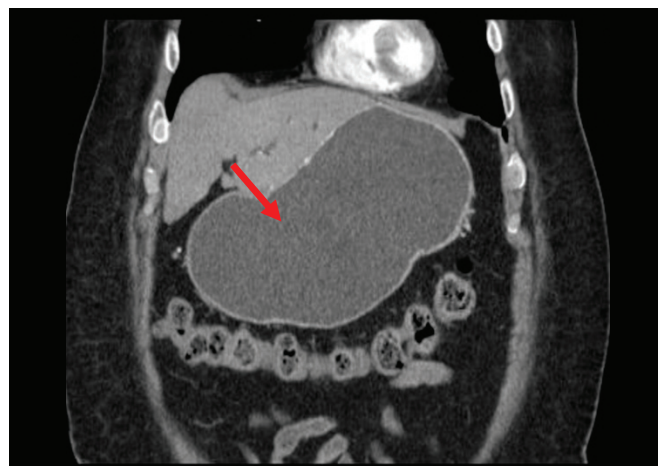


Figure 2: Coronal section showing a dilated stomach

Discussion

Patients with pancreatic cancer present with vomiting, nausea, and epigastric pain. Both the proximal and distal duodenum are vulnerable to external compression from masses in the pancreatic head and the uncinate process due to their close proximity and long adjacent course. One of the poor prognostic markers in upper gastrointestinal malignant cases is gastric outlet obstruction.⁴ The patient passed away after three months of diagnosis of gastric outlet obstruction. The goals of palliative treatment for gastric outlet obstruction in a patient with inoperable malignancy involve relieving pain caused by cancer or other chronic diseases. This is mostly surgically accomplished by endoscopic stenting or a palliative gastro-jejunostomy.

Initial steps in the management of gastric outlet obstruction include decompression with a nasogastric tube, adequate pain control, and consideration of the most effective method to restore adequate nutritional transit, typically via stent placement or surgical diversion.⁵ While deciding about the choice of procedure, factors such as patient's estimated life expectancy, performance status as per Eastern cooperative oncology group (ECOG) score, stage of disease, and risk-benefit ratio associated with the procedure must be considered. Patients with good performance status (ECOG:0-1) and a life expectancy of more than two months are suitable candidates for surgical gastro-jejunostomy. Laparoscopic gastrojejunostomy seems to be a safe and suitable choice for managing these cases owing to life expectancy and fewer chances of recurrence of symptoms. Whereas patients with poor functional status (ECOG:3-4) and shorter life expectancy are candidates for endoscopic stenting.⁶

The present patient was also managed with a double J gastrojejunostomy in view of the advanced loco-regional malignancy. His oncological treatment was delayed during his cancer journey due to associated complications of gastric outlet obstruction, cholangitis, and pain. In advanced pancreatic cancer, patients planned for chemoradiation and duodenal stenting were found to be a more appropriate choice as per Yoshida et al.⁷ Duodenal stent placement in malignant gastric outlet obstruction has the benefits of a quicker resumption of oral intake and a reduced inpatient hospital stay; however, this is further

complicated by an increase in the recurrence of symptoms and the need for further intervention.⁸

Gastric outlet obstruction can be a manifestation of metastatic disease as well. A literature review of six cases of transitional cell carcinoma presenting as duodenal obstruction due to distant metastasis has been reported, so far.⁹ Management of this diagnosis involves a multidisciplinary approach. As a result, the authors have submitted the patient's case for discussion in the national tumor board, which is a multidisciplinary team involving many specialties, including medical oncology, radiation oncology, surgical specialties, and internal medicine specialists. Chemoradiation was recommended for this patient; however, it was not done due to his clinical condition leading to surgical intervention. A follow-up inter-disciplinary meeting including medical oncologists, radiation oncologists, general surgeons, gastroenterologists, palliative, and the pain-management team was conducted. There was a unanimous agreement to proceed with a laparoscopic gastro-jejunostomy and Jeju-jejunostomy.

Gastric outlet obstruction must be included in the differential diagnosis of patients who present with symptoms of persistent non-bilious vomiting and impending signs of obstruction, as mentioned in this case report.

Pancreatic cancer is a disease with high mortality that impacts the caregivers along with the patient. Teamwork is quintessential to address the physical, emotional, social, and spiritual needs of both parties. This encourages and supports patients with possibly the best quality of life even among terminal cases.¹⁰ Listening to the patients' fears, hopes, pain, and dreams and understanding spiritual beliefs, incorporating spiritual practices where needed and desired by the patient is another vital aspect when caring for terminally ill patients.¹¹ This patient was supported by family members who visited daily. One family member stayed with the patient throughout the day, which provided emotional and psychological support. He was also seen by a Psychologist twice a week. The patient remained on high doses of morphine and seemed to be more comfortable in the presence of his family. The patient was financially supported by family members with the help of a charity organization. Although it impacted the family, it was ensured that

there was no compromise in the quality of care for the patient. Psychological aspects associated with the pathologies are important to be considered. It has been observed that patients who are depressed and anxious do less well with treatment and is associated with increased morbidity as well. Mood changes and anxiety can make it difficult for the patient to engage in the treatment process or supportive care. His family was regularly updated regarding his condition, which established a rapport with the physician.

It is essential that healthcare professionals in all settings recognize and address the physical, emotional, social, and spiritual needs that accompany patients as they transition into their end-of-life care and caregivers as they transition into bereavement.¹²

To conclude, Gastric outlet obstruction is a surgical emergency, and patients should be provided with optimum surgical, medical, and psychological care.

References

1. McGrath C, Tsang A, Nithianandan H, Nguyen E, Bauer P, Dennis K. Malignant gastric outlet obstruction from pancreatic cancer. Case reports in gastroenterology. 2017;11(3):511-5.
2. Shone DN, Nikoomanesh P, Smith-Meek MM, Bender JS. Malignancy is the most common cause of gastric outlet obstruction in the era of H2 blockers. American Journal of Gastroenterology (Springer Nature). 1995;90(10).
3. Tendler DA. Malignant gastric outlet obstruction: bridging another divide. The American journal of gastroenterology. 2002;97(1):4.
4. Oh SY, Edwards A, Mandelson M, Ross A, Irani S, Larsen M, Gan SI, Gluck M, Picozzi V, Helton S, Kozarek RA. Survival and clinical outcome after endoscopic duodenal stent placement for malignant gastric outlet obstruction: comparison of pancreatic cancer and nonpancreatic cancer. Gastrointestinal endoscopy. 2015;82(3):460-8.
5. Baron TH, Schöfl R, Puespoek A, Sakai Y. Expandable metal stent placement for gastric outlet obstruction. Endoscopy (Stuttgart). 2001;33(7):623-8.
6. Perinel J, Adham M. Palliative therapy in pancreatic cancer—palliative surgery. Transl Gastroenterol Hepatol 2019;4:28
7. Yoshida Y, Fukutomi A, Tanaka M, Sugiura T, Kawata N, Kawai S, Kito Y, Hamauchi S, Tsushima T, Yokota T, Todaka A. Gastrojejunostomy versus duodenal stent placement for gastric outlet obstruction in patients with unresectable pancreatic cancer. Pancreatology. 2017;17(6):983-9.
8. Upchurch E, Ragusa M, Cirocchi R. Stent placement versus surgical palliation for adults with malignant gastric outlet obstruction. Cochrane Database of Systematic Reviews 2018, Issue 5. Art. No.: CD012506. DOI: 10.1002/14651858.CD012506.pub2.
9. Bandireddy M, Baffy N. An uncommon cause of gastric outlet obstruction: A case report. Medicine. 2017;96(23).
10. Sherman DW, McMillan SC. The physical health of patients with advanced pancreatic cancer and the psychological health of their family caregivers when newly enrolled in hospice. Journal of hospice and palliative nursing: JHPN: the official journal of the Hospice and Palliative Nurses Association. 2015;17(3):235.
11. Puchalski CM. The Role of Spirituality in Health Care, Baylor University Medical Center Proceedings. 2001;14:4, 352-357, DOI: 10.1080/08998280.2001.11927788
12. Buyck JF, Bonnaud S, Boumendil A, Andrieu S, Bonenfant S, Goldberg M, Zins M, Ankri J. Informal caregiving and self-reported mental and physical health: results from the Gazel Cohort Study. American Journal of Public Health. 2011;101(10):1971-9.