

An Unusual Cause of Efferent Loop Obstruction

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Summary

A patient who presented with massive upper gastrointestinal hemorrhage underwent a Billroth II partial gastrectomy. He developed efferent loop obstruction due to a retained abdominal drain. Relaparotomy for removal of drain was performed. Retained drains are known complications but rarely, it is a cause of efferent loop obstruction.

Key Words: Efferent loop, Gastrectomy, Drain

Introduction

Efferent loop obstruction is a rare complication after gastrectomy and most literatures discuss on the commoner complication of afferent loop syndrome. Signs and symptoms of these two complications may be similar and difficult to distinguish. We present a patient who had early efferent loop obstruction after gastrectomy due to a retained drain.

History

A seventy-five year old man presented with haemetemesis and melena for one day. He was resuscitated and had an emergency upper gastrointestinal endoscopy, which revealed a large 4cm x 5cm ulcer, along the distal lesser curve. There was active bleeding from the ulcer and it was injected with adrenalin. Twelve hours later, the patient developed massive upper gastrointestinal bleed and became hypotensive.

He was immediately resuscitated and rushed to the operating theatre. At laparotomy, the stomach was filled with clots and blood. There was a large bleeding ulcer at the lesser curve in the body of the stomach which was adherent to the liver. The ulcer appeared malignant. A Billroth II partial gastrectomy was performed, with an antecolic, isoperistaltic anastomosis. A portex drain with 3 holes cut at the end, was placed in the subhepatic space. He recovered well and the drain was removed on the third postoperative day. He was started orally but two days later, he developed bilious vomiting, only at night. The abdomen remained soft and not distended. He was prescribed Motilium but there was no improvement. An upper endoscopy was performed a week later due to persistent vomiting. There was copious amount of bilious fluid in the stomach and the stomach was dilated. The lumen of the afferent loop was normal and easily intubated. However, the efferent loop lumen was narrowed. There was no edema. The

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CASE REPORT

gastroscope could not be passed into the loop. A barium meal showed there was complete obstruction of the efferent loop. A small tube drain of 4cm length was seen in the radiograph as well (Fig 1 and 2).

A relaparotomy was performed and the gastrojejunostomy was found adherent to the anterior abdominal wall with the broken portex drain encased within a mass of omentum and bowel. The stomach was distended with slight dilatation of the afferent loop indicating backflow. The jejunum distal to the mass was collapsed. The entire mass was released and the drain removed. The lumen of the distal jejunum was patent.

A jejunojejunostomy was performed, anastomosing the efferent and afferent loops to reduce bile gastritis and to ensure gastric drainage, should the patient develop anastomotic stenosis or recurrent adhesion. He subsequently recovered but there were a few episodes of bilious vomiting again. A repeat barium meal and follow through was performed which showed some hold up of contrast but a good flow on turning the patient laterally. This could be due to the deformity of the anastomosis secondary to the adhesions or kinking. He eventually recovered and was discharged. The histopathological report confirmed a benign gastric ulcer.

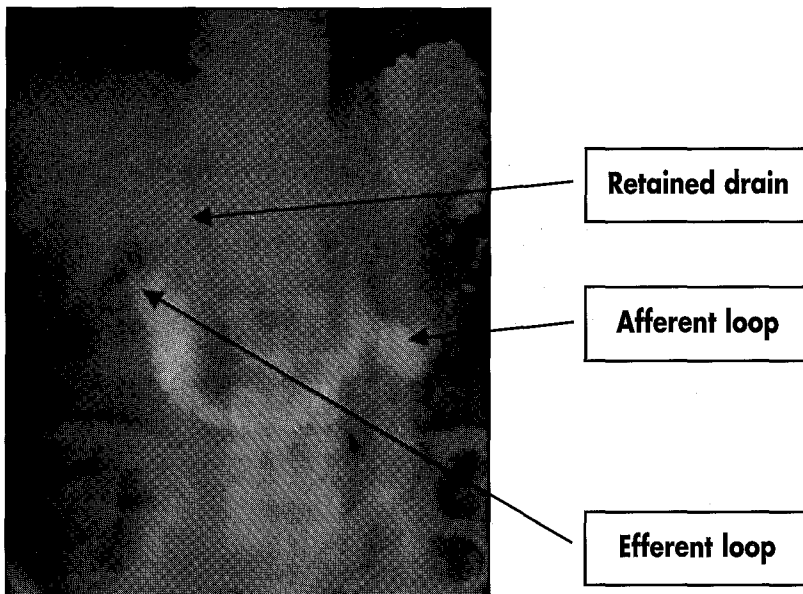


Fig. 1: A barium meal and follow through showing obstruction at the gastrojejunostomy site (efferent)

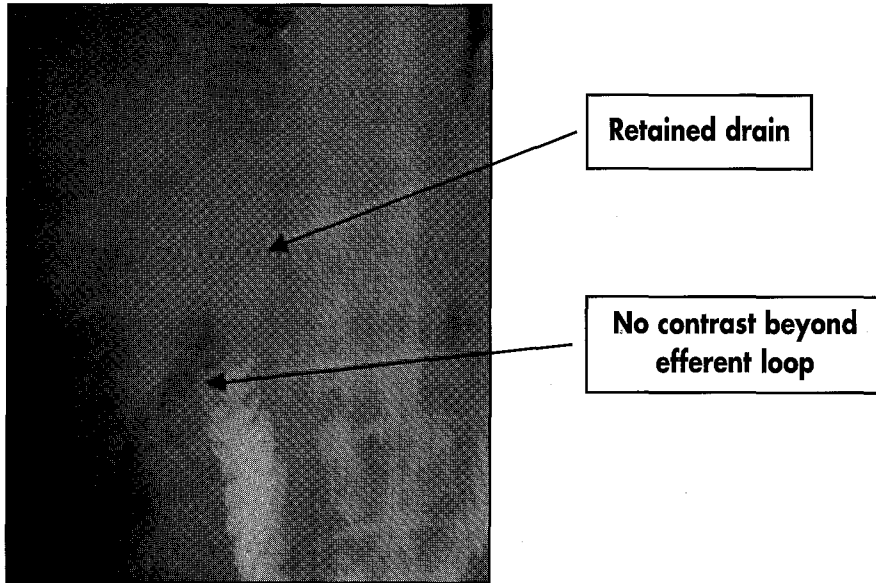


Fig. 2: Close up view of the barium meal and follow through

Discussion

Complications of gastrectomy are not uncommon¹. Some of these complications are anastomotic leak, anastomotic hemorrhage, dumping syndrome, bile reflux gastritis, afferent loop syndrome, jejuno gastric intussusception, delayed gastric emptying, diarrhoea and nutritional problems. Survival after gastrectomy has improved¹ and complications of gastrectomy are lesser which is likely due to improved surgical techniques, better equipments such as sutures, clamps and staplers, and better knowledge of the disease.

Efferent loop obstruction is a rare entity and the usual causes in the early post operative period are anastomotic edema and kinking due to poor reconstruction. Anastomotic stricture and ulcers, bowel adhesions, jejuno gastric intussusception and anastomotic cancer may be a cause much later. Rarely do we experience efferent loop obstruction caused by a broken portex drain, which causes a foreign body reaction, forming a mass followed by adhesions and thereby kinking

the efferent loop. We never thought of a drain causing efferent loop obstruction because the drain was pulled out effortlessly and the doctor was sure that the drain was complete. Most likely, the holes in the drain were too large and close together, thereby weakening the drain.

Efferent loop obstruction presents with copious bilious vomiting, distended upper abdomen and abdominal discomfort that is relieved by vomiting. It is worse when the patient is supine, as in this patient who had vomiting only at nights. The patient may be dehydrated with metabolic alkalosis and if prolonged, may have paradoxical aciduria.

In the early postoperative period, the investigation of choice for bilious vomiting would be a contrast study, that is a barium meal and follow through. Upper endoscopy is beneficial but has the risk of anastomotic dehiscence. Complete efferent loop obstruction due to a mechanical cause needs surgical intervention. However, should the obstruction be due to edema or anastomotic ulcer, conservative management

CASE REPORT

should be instituted first, which includes nasogastric suction, keeping the patient nil orally, prescribing H₂ antagonist or proton pump inhibitors and ensuring adequate hydration. Total parenteral nutrition may be necessary if the event is expected to be prolonged. Obstruction due to delayed gastric emptying may be treated with prokinetic drugs like motilium.

Surgical options are numerous, from revision of the gastrojejunostomy, converting a Polya to a Roux-en-Y anastomosis, a simple bypass or just simple release of adhesions or bands that may be causing the obstruction. Occasionally, a partial gastrectomy may need to be converted to a total gastrectomy.

In conclusion, causes of efferent loop obstruction postgastrectomy are many but in the early post-operative period, they are narrowed down to a few. Some are amendable to surgical treatment, and in others, operative intervention is contraindicated³. Early reoperation may be difficult due to post-operative inflammation and adhesions. Relaparotomy in the early period may be disastrous and may achieve no benefit. Hence treatment has to be curtailed to the individual patient and it is of utmost importance to try and establish the cause of the efferent loop obstruction, but this should not delay surgery if indicated¹.

References

1. Shchepotin, Igor B, Evans et al. Postoperative Complications Requiring Relaparotomies After 700 Gastrectomies Performed for Gastric Cancer. *Am J Surg.* 1996; 171(2): 270-73.
2. Brooke-Cowden GL, Braasch JW, Gibb SP, Haggitt RC, McDermott WV. Postgastrectomy Syndromes. *American J Surg.* 1976; 131(4): 464-70.
3. Braasch JW, Brooke-Cowden GL. Disability After Gastric Surgery. *Surg Clinics of N America.* 1976; 56(3): 607-13.