Obstructed Paraesophageal Hernia in a Nonagenerian Treated by Laparoscopic Anterior Gastropexy

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SUMMARY

Paraesophageal hernias have been historically associated with risk of substantial morbidity and mortality. We report a case of a 92 year old lady with acute gastric outlet obstruction due to a chronic paraesophageal hernia that was successfully treated by minimal invasive surgery. Anterior gastropexy was performed after the stomach was reduced. The hiatal opening was enlarged to reduce the risk of obstruction in the future. She was discharged well on the third day.

KEY WORDS:
Obstructed paraesophageal hernia, Gastric outlet obstruction, Laparoscopic anterior gastropexy

CASE REPORT

A 92 year old Malay lady with multiple medical problems presented to a district hospital with symptoms of an acute gastric outlet obstruction. She gave a background history of chronic paraesophageal hernia for the past 20 years. Due to her age, she required assistance for ambulation for the past five years.

A plain chest radiograph showed that the nasogastric tube inserted was coiled in the gastric fundus which was located in the left hemithorax. Barium meal confirmed the finding and there was a delay in the passage of contrast (Figure 1). The patient was referred to our institute for further management.

On arrival, she was mildly dehydrated. She was resuscitated and taken for an emergency laparoscopic surgery in view of risk of strangulation. Intra-operatively, the entire stomach was noted to have herniated into the thoracic cavity along with greater omentum. We managed to reduce the contents and a laparoscopic anterior gastropexy was performed by suturing the anterior stomach wall to the anterior abdominal wall with non absorbable sutures.

In view of her co-morbid factors and the shortened esophagus that was noted intraoperatively, we decided to keep our dissection of the hiatus to the minimum. The hiatal opening was intentionally enlarged using ultrasonic dissector to reduce risk of obstruction in the future. The entire procedure took 180 minutes. Post-operatively she was nursed in intensive care unit for a day. She was allowed orally the next day with paracetamol as analgesia. She was discharge well on the third day.

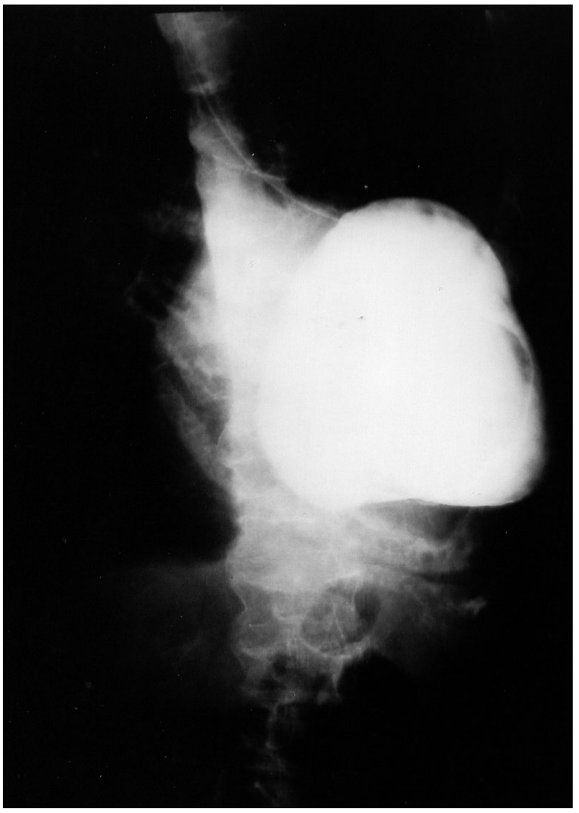

Fig. 1: Barium meal showing the proximal stomach within the left hemithorax with delay in gastric emptying

DISCUSSION

Aetiology of paraesophageal hiatal hernias (PEH) is unknown, but their rarity in children and young adult suggested that they are acquired rather than congenital. When small, these hernias produce few symptoms, but many of them will enlarge until most of stomach lies within the thorax before significant symptoms develop. This migration is associated with organoaxial rotation so that the greater curvature moves up and towards the right shoulder and occasionally mesentericoaxial rotation can occur as well.

In contrast with the more frequently encountered sliding hiatal hernia in which the gastroesophageal junction slides through the hiatus into thorax and pulling the proximal portion of the stomach up with it, the paraesophageal hiatal hernia is characterized by herniation of the fundus of the stomach alongside the lower portion of the esophagus

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through the hiatus. Other viscera such as colon, duodenum, or spleen may accompany the stomach and complicate the problem.

PEH frequently leads to gastric obstruction. Hill *et al*[1] reported the incidence of incarceration and obstruction of approximately 30%. The reported mortality rate was approximately 50% if operative decompression was not possible. These potentially lethal complications had led to the indication of earlier surgical intervention. Furthermore, PEH may be diagnosed incidentally in asymptomatic patients by finding a retrocardiac gas bubble on a chest radiograph. The value of surgery in this group is less clear, but most consider that surgery should be offered to avoid dangerous complications at a later stage.

The treatment of paraesophageal hernia in this case presented a significant surgical challenge because of the associated co-morbidity and old age therefore high operative risk. The laparoscopic approach was selected in an attempt to decrease the post-operative morbidity associated with upper midline laparotomy.

The basic principle of operative technique includes excising the sac, reducing the incarcerated organs and repairing the diaphragmatic defect. The diaphragmatic repair should be tension free. Currently most of surgeons use mesh repair which is reported to be superior compared with other repairs[2].

After its reduction into the abdomen, the stomach tends to assume into rotated position hence the importance of incorporating a maneuver to ensure fixation of stomach in its normal abdominal position. Alexander *et al*[3] reported that fundoplication can reduce recurrence rate from 36% to 12%. This procedure also plays a major role as antireflux procedure. However, the role of fundoplication as part of repair is still controversial.

The associated co-morbidity and old age of our case has led us to adopt a minimalist approach to surgery; in the belief that the value of laparoscopic anterior gastropexy is a relatively simple procedure with little or no tissue dissection. Provided the hernia contents are completely reduced, the procedure is remarkably well tolerated. The higher hernia recurrences rates have occurred in the fitter patients and it is most probably due to a simple gastropexy cannot withstand vigorous activity. Laparoscopic gastropexy is therefore reserved for those with poor cardio-respiratory status[4]. In conclusion, laparoscopic repair of paraesophageal hernia is a safe and feasible option. The advantage of minimal invasive surgery is maximized as being demonstrated in our case.

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