Med. J. Cairo Univ., Vol. 62, No.1 March (Suppl.): 273 -.276, 1994

Gastropexy For Chronic Gastric Volvulus : A New Technique With Long-Term Follow-Up

MOHAMMAD M. KENAWI, M.D., F.R.C.S., F.R.C.S.Ed

The Department of Surgery, Faculty of Medicine, Cairo University

Abstract

A case of chronic gastric volvulus is reported where gastropexy to both the abdominal wall and the diaphragm was achieved by a double row, an inch apart, of interlocking silk sutures . The postoperative course was uneventful and the symptoms were completely relieved. Barium meal 49 months after surgery showed normal shape, size, position and peristalsis of the stomach. Follow-up period: 6.5 years. This form of gastropexy is suitable for all types of primary gastric volvulus.

Introduction

GASTRIC volvulus may be acute or more commonly chronic (recurrent). Its classification, clinical picture and radiological appearances are well documented [1-4]. The treatment is that of the predisposing cause. When the volvulus is primary, with no obvious cause apart from ligamentous laxity, the concensus of opinion is for gastropexy [5]. This paper reports a form of gastropexy which has proved efficient over a lengthy follow-up period.

Case report

R.A. a 23 year old male presented with moderate intermittent upper abdominal discomfort, following meals, with occasional distress. Postprandial bloating was often followed by eructation, and rarely by vomiting, before postural relief of symptoms. Examination was noncontributory, absence of tenderness being noticeable. Barium meal showed a disarranged stomach with upward riding of its greater curvature (Fig. 1). Other investigations were normal.

Laparotomy on 20 March 1987 by upper midline incision showed no anatomical abnormality apart from laxity of the gastric ligaments. A continuous interlocking 2/0 silk stitch was used to fix the anterior wall of the stomach to the diaphragm and extending to the left anterior abdominal wall just short of the incision. It was sited parallel and one inch medial to the greater curvature. Another stitch parallel to the

first and one inch closer to the lesser curvature met the first both at the cardia and at the pyloric antrum (Fig. 2). The gastropexy thus fixed the stomach over a lengthy oblong *area* both to the diaphragm and to the anterior abdominal wall.

The postoperative course was uneventful and the symptoms were relieved. Barium meal 49 months after surgery showed normal shape, size, position and peristalsis of the stomach (Fig. 3). To date he has had an appendicectomy. Follow-up period: 6.5 years.

Discussion

Chronic gastric volvulus must be suspected in patients with vague upper abdominal pain, bloating, vomiting and early satiety [6]. In many patients the symptoms appear after a large meal [2]. The symptoms of chronic gastric volvulus may be indistinguishable from those of the splenic flexure syndrome [7] which is not rare where amoebiasis is endemic as in our country. The radiological appearances are characteristic but must be distinguished from those of the cascade stomach which shows a single barium level [8] and is frequently found in obese persons. However, since gastric displacement is intermittent, x-ray studies may not always be diagnostic [7].

Passage of a nasogastric tube alone may produce spontaneous reduction of the volvulus but provides no protection against recurrence [9]. Endoscopic correction has been successful [10] but all reported cases had no long-term follow-up. Before an idiopathic volvulus can occur there must be considerable lengthening of the gastrosplenic and gastrocolic ligaments which fix the stomach [11]. Their absence has been reported [7] and can be considered the result of failure of the normal fusion of the mesenteries of the foetal viscera [3]. Endoscopic correction cannot, therfore, be a definitive treatment.

Partial gastrectomy has its indications in gastric volvulus but is otherwise best avoided [8]. Gastrojejunostomy has given good results [12] but should not be resorted to if simpler methods will suffice. Fixation of the stomach is the simple procedure of choice [5]. Anterior gastropexy has been more commonly performed than posterior gastropexy [5, 7,13] and lateral gastropexy has been reported [14].

Anterior gastropexy fixes the stomach or the gastrocolic ligament to the anterior abdominal wall [3]. Recurrence has been reported following both procedures [15, 16] and review of these recurrences show that a single suture line was used in every case. Recurrence is probably explained by action of the original force, causing the gastric rotation, which eventually slackens the single suture line.

Although colonic displacement has been used in addition to the gastropexy [16], the latter ought to suffice unaided if it is strong enough. Strength has been achieved in the present case by uniting the

Fig. 1. Barium meal showing upward riding of the greater curvature of the stomach (gastric volvulus).

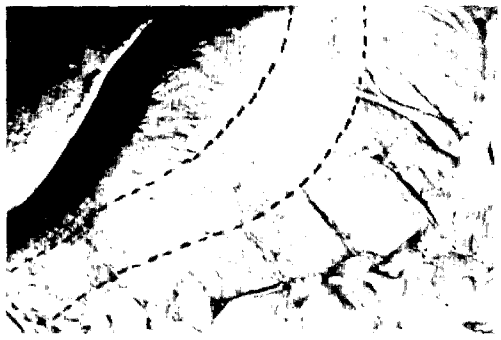

Fig. 2. The dotted line represents the site of the double row of interlocking silk sutures used for the gastropexy.

Fig. 3. Barium meal at 49 months postoperatively.

stomach to both the diaphragm and the abdominal wall by a double row, an inch apart, of silk sutures. The potential tug of the attached stomach wall has led to no complaint whatsoever. This form of gastropexy is suitable for all types of primary gastric volvulus.

References

1. SINGLETON A.C.: Chronic gastric volvulus. Radiology, 34: 53-61, 1940.
2. WASTELL C., ELLIS H.: Volvulus of the stomach. A review with a report of 8 cases. Br. J. Surg., 58: 557-62, 1971.
3. COLE, B.C., DICKINSON, S.J.: Acute volvulus of the stomach in infants and children. Surgery, 70: 707-17, 1971.
4. CARTER, R., BREWER, L.A., HINSHAW, D.B.: Acute gastric volvulus. A study of 25 cases Am. J. Surg., 140: 99-106, 1980.
5. ELLIS H.: Diverticula, Volvulus, Superior Mesenteric Artery Syndrome and Foreign Bodies. In: Schwartz, S.I. Ellis, H., eds. Maingot's Abdominal Operations 2. London: Prentice-Hall International Inc. pp. 582-7, 1990.
6. PATEL, N.M.: Chronic gastric volvulus: report of a case and review of the literature. Am. J. Gastroenterol., 80: 170-3, 1985.
7. STREMPLE, J.F.: A new operation for the anatomic correction of chronic intermittent gastric volvulus. Am. J. Surg., 125: 360-3, 1973.
8. ASKEW, A. R.: Treatment of acute and chronic gastric volvulus. Ann. R. Coll. Surg. Engl., 60: 326-8, 1978.
9. GOSIN, S., BALLINGER, W.F.: 2d: Recurrent volvulus of stomach: report of a case with recurrence after simple decompression. Am. J. Surg., 109: 642-6, 1965.
10. BHASIN, D.K., NAGI, B., KOCHHAR, R. et al.: Endoscopic correction of organoaxial volvulus. Endoscopy, 20: 283, 1988.
11. DALGAARD, J.D.: Volvulus of the stomach. Case report and survey. Acta Chir. Scand., 103: 131-53, 1952.
12. FARKAS, A. G., CELESTIN, L.R.: Gastrojejunostomy: a simple method of treatment of gastric volvulus. Ann. R. Coll. Surg. Engl., 68: 107-9, 1986.
13. IDOWU, J., AITKEN, D.R., GEORGESON, K.E.: Gastric volvulus in the newborn. Arch. Surg., 115: 1046-9, 1980.
14. HELBIG,D.:Dringliche Abdominalchirurgie beim Neugeborenen. Med. Welt, 15: 791-7, 1966.
15. STEPHENSON RH, HOPKINS WA.: Volvulus of the stomach complicating eventration of the diaphragm. Report of a case. Am. J. Gastroenterol., 41: 225-34, 1964.
16. TANNER, NC.: Chronic and recurrent volvulus of the stomach with late results of "colonic displacement". Am. J. Surg., 115: 505-15, 1968.