available at www.sciencedirect.com

The Surgeon, Journal of the Royal Colleges of Surgeons of Edinburgh and Ireland

www.thesurgeon.net

Failed laparoscopic anti-reflux surgery and indications for revision. A retrospective study

*Abdulzahra Hussain**, *Hind Mahmood*, *Tarun Singhal*, *Shamsi El-Hasani*

Minimal Access Unit, General Surgery Department, Princess Royal University Hospital, Farnborough common, Orpington, BR6 8ND, Greater London, UK

ARTICLE INFO

Article history:
Received 15 October 2009
Accepted 22 October 2009

Keywords:
Gastro-oesophageal junction
Laparoscopic anti-reflux surgery
Anti-reflux surgery
Revisional surgery
Laparoscopic Nissen Fundoplication

ABSTRACT

Revisional anti-reflux surgery is required in certain patients for either early post-operative complications or recurrence of their original symptoms. The aim of this study is to review our revisional surgeries, learn the lessons and to highlight the treatment options for recurrent gastrooesophageal symptoms.

Materials and methods: Three hundred and fifty one patients underwent laparoscopic anti-reflux surgery through January 2000 to March 2006 at our minimal access unit. Thirty-seven patients were diagnosed with failure of anti-reflux surgery. Patient's data and follow up were retrieved from medical records. All recurrences were investigated for underlying cause and their managements were planned accordingly.

Results: Thirty-seven (10.54%) patients who developed early post-operative complications or recurrence of gastroesophageal symptoms were 25 women and 12 men. Heartburn was the commonest recurrent symptom. The majority of failures occurred in the first two years. Fourteen patients underwent revisional surgery while 23 patients were treated with acid reducing medications and showed a good response. The re-operation rate is 3.98%. There was no mortality and the total morbidity rate for revisional surgery is 7.14%.

Conclusion: Early surgical complications of the initial procedures are managed by revisional surgery and the results were satisfactory provided these complications are detected early. Chronic failure of anti-reflux surgery can be managed by revisional surgery or medications depending on clinical symptoms and patients preference.

Introduction

Laparoscopic anti-reflux surgery LARS provides great advantages over conventional open procedures to treat symptomatic gastroesophageal reflux disease GORD.[1,2] Although Nissen, Toupet and other operative techniques have been used to resume disturbed anatomical integrity of the hiatus, laparoscopic Nissen fundoplication LNF has been proved as the preferable procedure for symptomatic GORD with high success rate which could approach 90%.[3,4] However, recurrent symptoms of reflux disease are reported in 7–10% and dysphagia in 6–14% following anti-reflux surgery ARS depending on the period of follow up.[5] Recurrent reflux is usually due to a mechanical failure of the repair and can be treated medically or by revisional surgery RS.[6] Failure has been attributed to early or late post-operative complications, wrap characteristics, anatomical or functional abnormalities.[7–10] In a significant number of patients who have recurrent symptoms, investigations revealed no

* *Corresponding author*. Tel.: +44 16898643000; fax: +44 16898664488.
E-mail address: azahrahussain@yahoo.com (A. Hussain).
1479-666X/$ – see front matter
doi:10.1016/j.surge.2009.10.019

cause to account for their symptoms and these cases may represent a functional failure. However, some patients who had a small or short wrap are asymptomatic. Furthermore, presence of symptoms in the absence of mechanical failure of ARS may not be considered as failure of the technique. In this study, we will discuss why our patients failed to respond to LARS and the indications for RS.

Materials and methods

Objectives

The aim of this study was to identify the causes of failure of LARS, indications and outcomes for RS.

Selection criteria

Thirty-seven patients out of 351 who underwent LARS were selected for this study. All were considered as failures depending on clinical and investigational data.

Definitions

Positive physiological study
Low lower oesophageal pressure, no intra-abdominal length of oesophagus and high DeMeester score, more than 14.72.

Anatomical failure
Disruption of normal anatomy of the hiatus.

Functional failure
Presence of symptomatic reflux disease usually heartburn in the absence of endoscopic and radiological hiatal anatomic abnormality. Frequently with normal physiological study.

Data collection and follow up

Patients' data and follow up were retrieved from patients' medical records. All patients had oesophagogastroduodenoscopy; oesophageal physiological studies while barium and CT scans were indicated in selected patients. Patients with recurrent symptoms and endoscopic findings of oesophagitis and/or endoscopic findings of wrap disruption were not subjected to PH studies while PH measurement was arranged for patients who had recurrent symptoms and normal endoscopy. Barium swallow was requested to evaluate postoperative dysphagia and when chronic wrap migration or para-oesophageal hernia was suspected. Laparoscopic RS was considered in all patients who developed mechanical failure or recurrence of their original symptoms .All patients were seen at 6 weeks, 6 months and a year after the operation.

Description of the technique

Standard Nissen technique was used in all primary anti-reflux surgery. Additional three-point fixation of the wrap was carried out by fixing the wrap inferiorly to the lowest stitch of the crural repair and superiorly to the right and left crus respectively using the sutures with the needles left in-situ. Description of the revisional techniques was included in the discussion section depending on the individual case

Results

The thirty-seven (10.54%) patients who developed complications and recurrence of symptoms were 25 women and 12 men. Fourteen patients underwent revisional surgery. The reasons for failure in 5 patients were early mechanical complications which were narrow hiatus, acute wrap migration and greater curvature ischemia. Another 8 patients developed chronic dysphagia due to a narrow hiatus and chronic wrap migration. One patient had intolerable gas bloat syndrome (see Fig. 1). The re-operation rate for the total series was 3.98%.

The mean operative time for RS was 130 min (range: 95–180 min). The mean age was 43 years (range, 26–67 years). One conversion for acute wrap migration was reported.

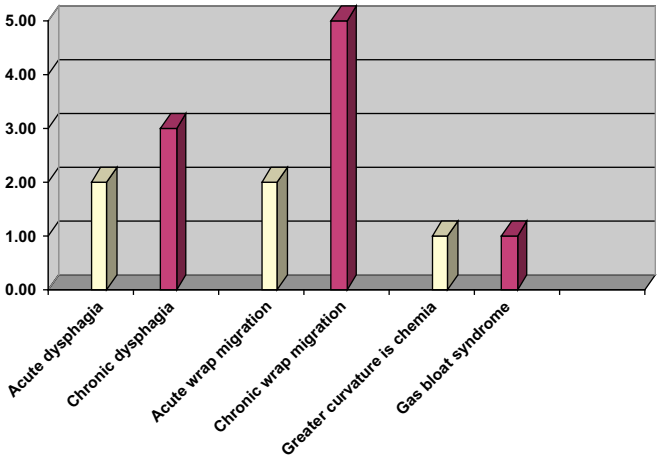

Fig. 1 – The indications for revisional anti-reflux surgery (*y* axis = number of cases, *x* axis = indication for revisional surgery).