Introduction

Herniation of abdominal contents through hiatal opening of the diaphragm into the thoracic cavity has been recognized for several centuries. Bowditch, probably the first American to write on the subject ***(Jarcho, 1963)***.

The anatomic characteristics of the esophagogastric junction were all emphasized as important factors in preventing the refulx of gastric acid into the esophagus. The abdominal segment of the esophagus, the esophagogastric angle, the pinchcock effect of the right crus of the diaphragm, and the rosette of mucosal folds at the esophagogastric junction have all been described as important anatomic features in gastroesophageal competence ***(Fyke et al., 1956)***.

Four types of herniation through the esophageal hiatus of the diaphragm may be distinguished:

1) **The sliding type:** where the esophagogastric junction moves through the hiatus into the posterior mediastinum, so that it occupies an intrathoracic position cephalad to the stomach which follows it.
2) **The paraesophageal type:** in which the fundus of the stomach rises into the chest alongside the lower esophagus, while the gastroesophageal junction lies in its normal location.
3) **A combined, or sliding-rolling, hernia:** on occasion both types can be combined, with the esophagogastric junction herniated into the chest along with the greater curvature of the stomach – a sliding and rolling type of hernia.

4) Giant hiatus hernia ***(Tarnay, 1968)***.

The majority of hiatal hernias are asymptomatic, but when symptoms occur they usually result from dearrangement of gastroesophageal function caused by the abnormal anatomy and function ***(Hill and Tobias, 1998)***.

The diagnosis is usually made mainly by radiographic means and may include a barium-swallow examination, cinefluorography and special maneuvers to assess reflux. Esophagoscopy should be carried out in all patients with symptoms of gastroesophageal reflux or with unexplained respiratory symptoms in order to further assess esophageal function ***(Bernstein and Baker, 2001)***.

The differential diagnosis is particularly important because the clinical picture of esophageal disease can mimic other conditions (myocardial infarction, pleurisy), and vice versa ***(Farrell et al., 1994)***.

In the absence of symptoms, no treatment is indicated for uncomplicated sliding esophageal hiatal hernia. Medical treatment generally is indicated for all patients initially, particularly those patients with milder or transient symptoms in whom esophagitis is absent or mild (hyperemic and edematous mucous, but not ulceration) ***(Skinner and Belsey, 2004)***.

The selection of patients for any surgical procedure is critical in assessing the results of that procedure ***(Skinner and Belsey, 2004)***.

The success of surgical treatment depends on complete and lasting relief of symptoms, prevention or elimination of complications, a negligible predicted rate of mortality and morbidity, and the introduction of no new symptoms as a result of the procedure ***(Hill et al., 2000)***.

The major determinant in the choice of procedure often is the surgeon's background of training and experience ***(Little et al., 2000)***.

Recurrent hernias, reflux, and other complications present difficult problems after fundoplication procedures. A second operation may be necessary to correct these problems; unfortunately, however, such reoperative procedures yield a significantly lower rate of long-term success ***(Little et al., 2000)***.

Minimally invasive techniques have been applied to the repair of giant hiatal hernias, but have been associated with recurrence rates of up to 30 to 40% compared with 5 to 10% for open repair. Such high rates of recurrent herniation may be due, at least in part, to technical acclimatization to the laparoscopic environment ("learning curve") ***(Koh et al., 2004)***.

Various techniques of minimally invasive Collis gastroplasty have been reported. Combined laparoscopic/thoracoscopic Collis_Nissen procedures have been described by ***Awad et al. (2000)***.