Gastropexy and "Fundoplication"* in Surgical Treatment of Hiatal Hernia†

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The most obvious means of treating sliding hiatal hernia is application of the method that has proved its worth in the treatment of other abdominal hernias, i.e., opening the hernial sac, restoring the contents to their normal position, performing resection of the sac, and, finally, closing the hernial opening. Yet, even in the case of inguinal hernia in male patients, difficulties are encountered with this classic procedure, it being impossible to close the hernial orifice completely because of the spermatic cord. The percentage of relapses following radical operation for male inguinal hernia (9–20 per cent) clearly illustrates this difficulty, as does the fact that, in the case of elderly men, many surgeons advocate the simultaneous extirpation of the testicle and spermatic cord in order to deal with the hernia more satisfactorily.

In the case of sliding hiatal hernia, the anatomical conditions are if anything still less favorable. Not only is it extremely difficult to effect just the right amount of narrowing of the esophageal hiatus, but there is also a pronounced tendency for sutures to fail to hold no matter what method of suturing is used.

Our experience with the so-called classic procedure for hiatal hernia dates from 1930, when, following investigations by H. H. Berg at the Medical Department of the Charité in Berlin, the method of radiological diagnosis was systematized. At that time in the Surgical Department of the Charité, the transthoracic approach was used. The long-term results were unfavorable; after a few years, during which the failure rate amounted to 50 per cent, we decided to adopt the abdominal incision, which had been popularized by Harrington. Unfortunately, even this method achieved no improvement in long-term results. A third phase began when Allison introduced his own transthoracic method; but this, too, failed to give us satisfactory results, quite apart from the fact that it constitutes a major intervention to which one is loath to submit elderly

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patients, who constitute a considerable proportion of those treated by us (45 per cent over 60 years old).

The clinical symptomatology of sliding hiatal hernia had been studied more closely. The temporary strangulation of the prolapsed portion of the stomach, on which much emphasis had originally been laid, soon proved a problematical factor, particularly with respect to explaining the appearance of such manifestations as heartburn and hemorrhage. It seems probable that strangulation, in so far as it occurs at all, is responsible at most for pain in the epigastric fossa and for irregularities in the heart beat. This latter phenomenon, incidentally, is encountered extremely rarely in sliding hernias. The dominant factor here would seem to be the reflux esophagitis, though whether this is cause or effect still remains an open question.

In a recent paper we discussed the connection between reflux esophagitis and hiatal hernia in the light of our own experience. The relief from gastroesophageal reflux should constitute the primary objective of surgical intervention. The cardial insufficiency responsible for the regurgitation seems to be mainly due to blunting of the normally sharp angle formed by the esophagus and the cardiac portion of the stomach (angle of His).

A method does exist which enables one to restore the angle of His and to correct the hernia by simultaneous abdominal invagination of the hernial sac (Fig. 1 and 2). This method is a type of gastropexy in which the stomach is fixed to the anterior abdominal wall under traction.

This operation was first performed by us in 1946 as an emergency measure. The patient was a 66-year-old man in very poor general condition, with a history of a large incarcerated paraesophageal hiatal hernia of several days' standing. In view of the critical situation, we contented ourselves with extracting the hernial contents (four-fifths of the stomach) from the hernial sac and, to prevent renewed incarceration, fastening the fundus under traction to the anterior wall of the abdomen. Soon after this, we were obliged to perform a similar operation on a 70-year-old patient. Both patients remained symptom-free, despite the fact that the hernial orifice was not constricted nor the hernial sac removed.

Subsequently, this operation was performed from time to time on elderly patients with hiatal hernias of both types, in the sure knowledge that this minor intervention (requiring only a few minutes to perform) could safely be used even for elderly and poor-risk subjects. This in fact proved to be the case, and the good results were found to be maintained at follow-up. Our somewhat cautious advocacy of gastropexy in 1954 received noteworthy support in a paper by Boerema which appeared...