

Endoscopy in Hernia at the Esophageal Hiatus

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HERNIATION of a portion of the stomach through the esophageal hiatus of the diaphragm is a well recognized although poorly understood clinical entity. True congenital shortening of the esophagus with thoracic stomach is rare; it would be expected that symptoms of hiatal hernia would in that condition be evident from early infancy. Most cases of herniation through the esophageal hiatus are acquired.

It is erroneous to assume that hernia of the esophageal hiatus occurs only with relaxation of the hiatus as in older persons. The authors' experience with endoscopy indicates that in a significant number of cases herniation occurs through a normal or even a narrowed hiatal ring. The condition is usually attributed to increased intra-abdominal pressure, especially in obese persons in whom stooping, bending, coughing or other stresses exert sufficient pressure to force the stomach through the hiatal ring, or to shortening of the esophagus by inflammation or carcinoma. The authors believe that the condition is of functional origin in some cases. In some patients, usually young, nervous, anxious and tense, there is a striking association of symptoms of hiatal hernia with previous psychic trauma. It is the authors' hypothesis that the herniation in these persons is produced as a result of esophageal spasm and shortening which causes a portion of the gastric cardia to be drawn through the esophageal hiatus. Another functional cause is reflex spasm and shortening of the esophagus, frequently associated with other abdominal disorders, particularly chronic cholecystitis and peptic ulcer. The functional origin of hernia of the esophageal hiatus has not been adequately stressed.

The value of endoscopy in the diagnosis of hiatal hernia and particularly of associated conditions within the hernial pouch has been emphasized by several observers. Moersch¹ and Clerf² recommended esophagoscopy as a method of confirming roentgenographic diagnosis and stressed the value of it in the diagnosis of associated conditions such as gastritis, erosion, hemorrhage and ulceration. Benedict³ and Belsey,⁴ advised the use of esophagoscopy in cases in which the roentgenographic findings are equivocal or negative. On the whole, the use of gastroscopy in hiatal hernia has not met with general acceptance. However, Schindler⁵ and Palmer⁶ stated that gas-

• Endoscopy is useful for confirming diagnosis of hiatal hernia as made by x-ray examination, for establishing the diagnosis when x-ray examinations do not disclose the herniation, and for observation of resultant abnormalities in the affected area. The authors' experience with gastroscopy and esophagoscopy in hiatal hernia is reported and the techniques and usual findings in these procedures are summarized.

troscopy may be useful to confirm diagnosis made from x-ray films and to disclose mucosal abnormality within the hernial pouch. Schindler⁵ added that gastroscopy may be the method by which hiatal hernia is first diagnosed, implying that subsequent x-ray examination usually confirms the diagnosis. The present report gives the authors' experience with the use of both esophagoscopy and gastroscopy in patients on whom x-ray examinations were also made.

Of twelve cases of esophageal hiatal hernia in which the x-ray findings were unequivocally positive, esophagoscopy was done in nine cases and the diagnosis was confirmed by this procedure in seven cases. Gastroscopy was done in seven cases and confirmation obtained in five. It is very likely that in the cases in which these methods did not disclose the hernia it was reducible, and it is possible that the hernia may have been reduced through the instrumentation. It is of interest that associated abnormality was found equally well by either method; esophagitis, hemorrhagic gastritis of the pouch, and superficial gastritis of the pouch were observed in one case each by esophagoscopy; atrophic gastritis of the pouch and hypertrophic gastritis of the pouch were observed in two cases each by gastroscopy. Gastroscopy may disclose abnormality which is entirely confined to the hernial pouch and has no effect on the remaining portion of the stomach. In one of the cases in this group it was thought that esophagitis preceded and then caused herniation.

In three cases the x-ray findings were equivocal and esophagoscopy examination disclosed no abnormality, although on gastroscopy one patient was found to have a small hiatal hernia. In this instance the area of herniation was out of reach of the esophagoscope. Hypertrophic hemorrhagic gastritis confined entirely to the pouch was found in this patient by gastroscopy.

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The most striking experience the authors have had with hiatal hernia was in eleven patients who had clinical symptoms suggesting hiatal hernia and who were examined roentgenographically with negative results. Two of the cases were diagnosed by esophagoscopy and the remaining nine by gastroscopy. In all cases the herniation was small. In one case atrophic gastritis entirely confined to the pouch was disclosed by gastroscopy. No other abnormality was observed by either procedure. In one case the diagnosis was confirmed at operation.

DISCUSSION

There is no doubt about the value of esophagoscopy and gastroscopy in the diagnosis of abnormality associated with hiatal hernia, particularly when there is hemorrhage or when x-ray examination discloses a secondary defect within the esophagus or within the herniated portion of the stomach.

The authors conclude from their experience that endoscopy is indicated in any case in which the symptoms are significant of hiatal hernia and diagnosis cannot be established by x-ray examination. If x-ray examination discloses no abnormality of the esophagus; if there is no obstruction to the flow of barium through the esophagus, and if the large-caliber Ewald stomach tube can be easily passed into the stomach, the procedure of choice is gastroscopy. If these conditions cannot be met, it is wiser to use esophagoscopy.

X-ray diagnosis of hiatal hernia is difficult when the hernia is very small and its relationship to the diaphragmatic hiatus cannot be readily determined, or when the herniated portion of the stomach assumes a tubular configuration very similar to that of the esophagus, instead of the usual dilation of the hernial pouch. In two cases where the latter condition occurred the x-ray findings suggested the presence of esophageal varices. Indeed, esophageal varices were diagnosed initially in some patients having cirrhosis of the liver; on reexamination by endoscopy and x-ray these patients were found to have hiatal hernia and not esophageal varices. Such a confusion of diagnosis may occur in patients with hepatic enlargement and gross hemorrhage from the upper gastrointestinal tract, since it might be assumed that hemorrhage is caused by esophageal varices when actually a hiatal hernia is present. Even if esophageal varices are present, bleeding may be the result of congestion, erosion and possible strangulation by a hiatal hernia.

Gastroscopy

The criteria for the diagnosis of hiatal hernia by means of gastroscopy have been adequately set forth by Schindler.⁵ As the gastroscope is withdrawn, a

contracted portion of the stomach is encountered at the region of the hiatus which may momentarily darken the field. Above this ring a secondary pouch lined with gastric mucosa is entered; when the instrument is further withdrawn, the field is again darkened by the esophageal occlusion. The authors have observed, in instances in which the hiatus was relaxed and the usual constriction was minimal or absent, a rhythmic undulation of the gastric mucosa synchronous with respiration which is caused by the movement of the adjacent margins of the diaphragmatic hiatus against the wall of the stomach. This produces a wave-like to-and-fro motion of the stomach wall which is highly characteristic and never dependent upon intrinsic peristalsis.

Esophagoscopy

The authors prefer the newer instruments which are introduced by means of rubber-tipped obturators. The most striking feature encountered during esophagoscopy is that in nearly all cases the esophagus is shortened. This is a secondary or acquired shortening as a result of the contraction of the longitudinal muscle of the esophagus. In a few cases, particularly in those of the paraesophageal type, the esophagus is not appreciably shortened and may even be buckled. Beyond this shortening, a definite pouch line with gastric mucosa can be seen and in most instances the distal opening into the main body of the stomach can be observed, although in a few cases, despite considerable maneuvering of the instrument and the patient, this has been impossible. If the hiatus is of normal caliber, or is constricted, the stomach is drawn through the hiatus as if by a purse string, with radiating folds converging upon a narrow or slit-like opening. The resultant abnormalities within the hernial pouch or within the esophagus are usually easily recognizable by an experienced endoscopist, but when the gastric mucosa within the pouch has become atrophic it may be difficult to differentiate clearly between atrophic gastric mucosa and the usually pallid, smooth esophageal mucosa. A mucosal biopsy specimen may be taken through the esophagoscope for confirmation.

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