

Short Segment Hiatal Hernia - The Long and the Short of It

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Article: Short segment hiatal hernia: is it a clinically significant entity?
(J Neurogastroenterol Motil 2010;16:35-39)

The role of hiatal hernias (HH) has traveled through the full swing of the pendulum. Initially thought to be necessary for gastro-esophageal reflux, subsequently HH as a pathologic entity fell out of favour and was considered an incidental finding of no real consequence. In the last decade, HH have found favour again and are now established risk factors for the development of gastro-esophageal reflux disease (GERD), non-erosive reflux disease (NERD), Barrett's oesophagus, and oesophageal adenocarcinoma. Moreover HH have now been demonstrated impair the effect of proton pump inhibitors (PPI).¹⁻⁹

To date most authors would consider a hiatus hernia, referred to Hyun et al. as long segment hiatus hernia (LSHH), to be present if the diaphragmatic indentation (diaphragmatic crus) is seen 2 cm or more distal to the Z-line and the top of the stomach mucosal folds.^{10,11} The manuscript by Hyun et al. is the first to suggest that hiatal hernias between 0.5-2 cm are significantly associated with columnar lined epithelium (CLE) and Los Angeles grade A reflux oesophagitis. Here the rates of CLE and grade A oesophagitis was greater or on par with patients who had LSHH. Moreover the study found that HH was present in 9.3% of patients with SSHH comprising the majority (5.6%) dwarfing the

rate of LSHH (3.8%).

HH can be of three types, with type 1 (sliding) HH the type in question in this study which accounts for about 90% of all HH.¹² Type I (sliding) HH results from laxity and loss of elasticity of the phreno-oesophageal ligament. Currently HH is regarded as present if greater than 2 cm difference is detected because of the inherent margin of error, as the gastro-oesophageal junction (GOJ, recognized as the Z line) moves physiologically proximally during swallowing in relation to the diaphragmatic crus.^{2,13} The GOJ moves in relation to the diaphragmatic crus in a number of situations including respiration, oesophageal insufflation, and gastric insufflation, moving from the supine to the upright position.^{2,13} Moreover conditions including Barrett's epithelium or a patulous hernial orifice can make determination of the GOJ and diaphragmatic crus respectively, difficult to accurately determine. While large HH are easily identified in radiological, endoscopic and manometric studies, the diagnosis of a small hiatus hernia is not well-standardized. The current practice of diagnosing a hiatus hernia and measuring its size using the centimetre markings on the endoscope is inaccurate. There is no standardization regarding the degree of air insufflation or which

Received: December 24th, 2009 Accepted: December 28th, 2009

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Financial support: None.

Conflicts of interest: None.

phase of respiration the measurement is made at.¹¹ It is also difficult to be certain that the tip of the endoscope is precisely at the Z-line or diaphragmatic crus, and the distance to the incisors is often obscured by the bite block. Presently the margin of error related to the above factors is considered to be 2 cm, hence the entity of short segment HH has not been considered in previously published papers.

Recently developments in oesophageal manometry have suggested a method by which SSHH could be diagnosed with accuracy given the inherent inaccuracy of endoscopy, barium studies and traditional manometry in the sub group of HH under 2 cm in length. High resolution endoclip manometry studies although not practical for routine clinical assessment can be used to confirm the presence or absence of endoscopically determined SSHH. It is beyond the scope of this editorial to describe the method in detail, suffice to say that a major limitation of Hyun et al.'s study is the absence of reproducibility of the demonstration of SSHH, and this method may be a means by which this criticisms of the study may be circumvented. This is especially importantly as the published data relating to reproducibility of 'standard' or LSHH is scant, and the reproducibility of SSHH would be even more controversial. There are few published data on the correlation between different diagnostic modalities in the diagnosis of HH. One study demonstrated significant disagreement between the two diagnostic modalities for the diagnosis of HH when using both upper GI endoscopy and barium studies.¹⁴

In summary, the study by Hyun et al. raises the intriguing concept of SSHH. It is tempting to postulate that by detecting even mild grades of HH we may be able to manage a risk factor for diseases including reflux oesophagitis, Barrett's oesophagus and oesophageal adenocarcinoma or at the very least prognosticate for our patients. However the long of it is, more work needs to be done, the reproducibility of the measurements needs to be verified, a protocol developed for measuring HH length which may possibly include the use of other diagnostic modalities and the short of it is, if SSHH is indeed an entity, it clearly deserves more attention given its association with CLE and reflux oesophagitis, and its relative prevalence to LSHH as demonstrated in this

paper.

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