Hiatus hernia
what the GP needs to know

Hiatus hernias are often associated with other upper gastrointestinal disease. In most cases, treatment should be directed at the primary symptomatic lesion.

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Hiatus hernia is a condition to which many symptoms are ascribed by both patients and their doctors. Because of the variability in the way in which patients are diagnosed with the condition, and the variable threshold at which different doctors will diagnose and/or inform the patient of the presence of a hiatus hernia, it is difficult to be sure whether any particular symptom is directly related to the presence of hiatus hernia or not.

What is more certain is that the presence of a hiatus hernia indicates a disruption of the normal anatomical arrangement between the diaphragmatic hiatus and the oesophagogastric junction. This disruption weakens the physiological barriers to gastro-oesophageal reflux, and thus predisposes to gastro-oesophageal reflux disease.

Definition of hiatus hernia

A hiatus hernia exists when part of the stomach is in the chest rather than the abdominal cavity. There are two types of hiatus hernia: sliding and paraoesophageal. In the sliding type, which is by far the most common, the oesophagogastric junction (and thus some of the proximal stomach) is in the chest, but the stomach maintains its usual orientation (Figure 1). In the paraoesophageal type, the oesophagogastric junction remains in its usual location, but some gastric fundus, followed by a variable amount of the greater curve, herniates up into the chest through the diaphragmatic hiatus, alongside the oesophagus. A paraoesophageal hiatus hernia, particularly if large, can thus lead to rotation of the stomach as it enters the chest, and is more often associated with complications, such as incarceration, volvulus and obstruction.

As sliding hiatus hernias are more common, accounting for 75 to 90% of hiatus hernias, most of the commentary in this article addresses them, unless otherwise specified.

IN SUMMARY

- **Complaints of heartburn, acid reflux, waterbrash and dysphagia or odynophagia often lead to the discovery of a sliding hiatus hernia.**
- **Sliding and paraoesophageal hernias may occasionally present with iron deficiency due to chronic blood loss, possibly resulting from a chronic gastric ulcer within a hernia or from erosions along gastric folds.**
- **Paraoesophageal hernias have some associations not usually encountered with sliding hernias. These include chest pain, early satiety, dyspnoea and, rarely, infarction.**
- **It is generally the associated symptoms that require management rather than the hernia itself, although large or incarcerated hernias may require surgical management.**
- **A single endoscopy (with biopsy if indicated) to detect or exclude Barrett's epithelium should be considered in the evaluation of most patients, especially those aged over 40 at initial presentation, those who fail to make a good response to standard dose therapy or those who have atypical symptoms.**

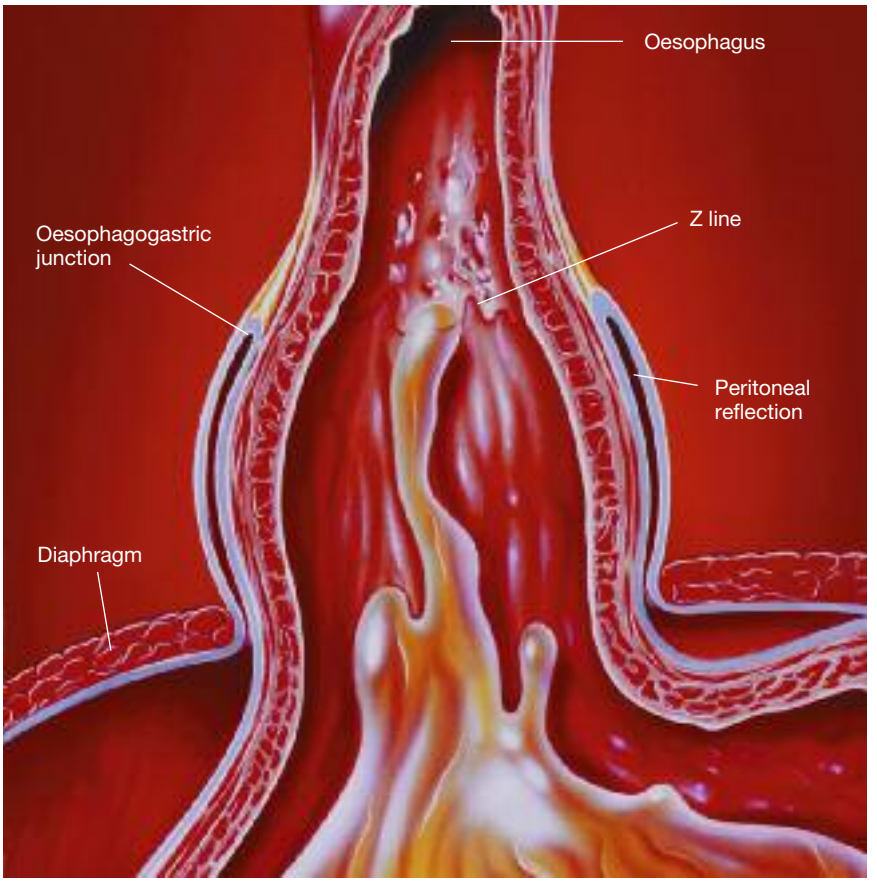

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Figure 1. Diagram of a sliding hiatus hernia. The cardia and a variable amount of fundus have moved up into the thoracic cavity, so that the oesophagogastric junction is in the chest, rather than coinciding with the diaphragm, which usually contributes to the lower oesophageal antireflux action. In a paraoesophageal hernia the oesophagogastric junction remains at the level of the diaphragm, and the fundus herniates into the chest through the hiatus and alongside the oesophagus.

Contributing factors

Hiatus hernias are more commonly found with increasing age, and are thought to develop or enlarge as the size of the hernial orifice in the diaphragm increases. Factors likely to contribute to increasing size of the hiatal orifice include increased tissue laxity with ageing, mechanical strain from chronically elevated intra-abdominal pressure, and pre-existing anatomical defects. The precise aetiology of hiatus hernias is unclear. Although some kindreds with a familial inherited form have been reported, and in rare instances hiatus hernias may present as part of a congenital inherited syndrome, these explanations are not likely to account for the majority of hernias seen.

Associated symptoms and presentations

In the developed world, sliding hiatus hernias are common, particularly in older people, and are frequently asymptomatic. They are therefore likely to be an incidental finding in many cases.

Because of the displacement of the oesophagogastric junction, sliding hiatus hernias are often associated with reflux symptoms. Thus, complaints of heartburn, acid reflux, waterbrash and dysphagia or odynophagia often lead to their discovery. However, in most instances, the hernia itself is not thought to be directly responsible for the symptoms, although it contributes indirectly by predisposing the patient to reflux. Endoscopic findings in gastro-oesophageal reflux disease are likely to be worse in patients in whom a hiatus hernia coexists – presumably because the anatomical displacement of the oesophagogastric junction allows more frequent reflux, prolongs oesophageal clearance and leads to longer acid contact times.

Hernias of either paraoesophageal or sliding types may occasionally present with iron deficiency caused by chronic blood loss. This loss may result from a chronic gastric ulcer within a hernia, from erosions along gastric folds (particularly those overlying the diaphragmatic hiatus) or from 'stasis' gastritis within a large, poorly emptying paraoesophageal hernia. In older texts, approximately 10% of chronic gastric ulcers were said to occur within hiatus hernias, although with endoscopy now being more widely available this figure seems higher than that encountered in contemporary clinical practice. Gastric ulcers in hernias run a generally more complicated course than gastric ulcers elsewhere in the stomach. A hiatus hernia with or without erosions should not, however, be accepted as an adequate explanation of iron deficiency without colonic examination, because dual gastrointestinal pathology may coexist, particularly in older people.

Sliding hiatus hernias are found at an increased rate in subjects with spastic motor disorders of the oesophagus (perhaps due to oesophageal shortening) and therefore are frequently found when evaluating a patient for dysphagia or noncardiac chest pain.

FIGURES 2 AND 3 COURTESY OF DR MARY GABB, ADELAIDE

Figure 2. Barium study showing a large mixed (sliding and paraoesophageal) hiatus hernia.

Figure 3. Barium study of a paraoesophageal hiatus hernia, showing its relationship to a normally sited oesophagogastric junction.

Figures 5a (above) and b (below). Antero-posterior and lateral x-rays showing a sliding hiatus hernia.

Paraoesophageal hernias have some additional modes of presentation not typically encountered with the sliding type hernias. These include chest pain, early satiety, dyspnoea (when very large) and, rarely, infarction.

Diagnosis

A hiatus hernia is usually diagnosed at the time of a barium meal (Figures 2 and 3) or an endoscopy (Figure 4); however, large hernias may be clearly visible on chest x-ray (Figures 5a and b). Large hernias are easily seen during a barium meal, and barium studies provide good evidence of disruption of the usual nexus between the diaphragm and the oesophagogastric junction.

During barium meal examination, attempts to provoke reflux are often performed and, depending on the persistence of the radiographer and/or radiologist, a degree of reflux can be demonstrated in most subjects. Whether this is of clinical significance or not is less clear because of the provocation applied. In this setting the demonstration of a small hiatus hernia is probably meaningless.

When considering diagnostic tests, it is important to realise that a sliding hiatus hernia is not usually a fixed abnormality, and at any given time a hernia may or may not be present because the oesophagogastric junction is relatively free to move up and down. This fact is clearly appreciated at endoscopy when a small sliding hiatus hernia may be seen on insertion of the endoscope into the stomach but not as the instrument is withdrawn. Presumably the hernia has been reduced by the longitudinal pull on the stomach due to intubation of the pylorus. This common observation emphasises the difficulty in obtaining standard or accurate information on hiatus hernias, because some endoscopists would not report a small hernia that was no longer seen on withdrawal, while others would. Likewise, there is a degree of subjectivity in an individual radiologist's reporting on the presence or absence of a hiatus hernia on a barium study.

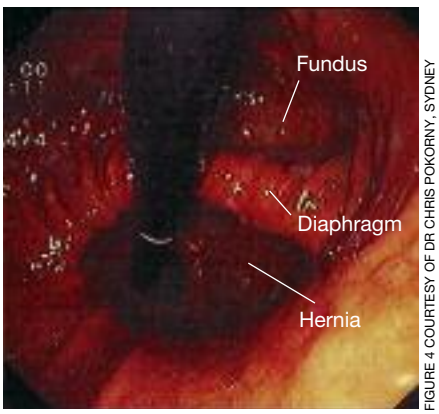

FIGURE 4 COURTESY OF DR CHRIS POKORNY, SYDNEY

Figure 4. A hiatus hernia with a retroflexed endoscope.

FIGURES 5A AND 5B COURTESY OF DR MARY GABB, ADELAIDE

Hiatus hernias are less frequently diagnosed by other means, including during oesophageal manometry or a CT scan, but in these settings they are usually not the main target of the investigation.

Paraoesophageal hiatus hernias are more difficult to diagnose than the sliding types, both at endoscopy and during barium studies – unless they are large. This is partly because they are less common, but also because the plugging of the diaphragmatic hiatus by the herniated

fundus can obscure the opening to the hernia. Thus, in diagnosing a paraoesophageal hiatus hernia, a high degree of suspicion is helpful. Radiology is probably the better investigation for assessing paraoesophageal hernias, with either a good quality barium study or a CT with adequate intragastric contrast.

What to do

When a hiatus hernia is diagnosed, many patients are understandably concerned. It is helpful to follow a considered approach to management. This not only allays the patient's concerns but also ensures that the measures instigated are appropriate to the patient's presenting clinical complaint, rather than a reflex response to the finding of a hernia.

It is thus useful to divide hernias by presentation when considering management strategies, because it is generally the associated symptoms that require management rather than the hernia itself – although large or incarcerated hernias may require surgical management on their own merits.

Asymptomatic or incidental hernia

No treatment is required for an asymptomatic or incidental hernia, unless the hernia is associated with a complicating factor such as an ulcer. Then treat as for the complicating factor.

Reflux associated hernia

For reflux associated hernia, treat according to the degree of reflux disease present. The current initial management of gastro-oesophageal reflux disease is somewhat controversial: opinions vary from no investigation and empirical therapy with proton pump inhibitors to mandatory endoscopy and acid suppression therapy guided by a 24-hour oesophageal pH study. A reasonable approach probably lies somewhere between these two extremes, with the proviso that a single endoscopy (with biopsy if indicated) to detect or exclude Barrett's epithelium may be prudent in the evaluation of most patients, especially those over 40 years of age at initial presentation or those who fail to make a good response to standard dose therapy.

The Digestive Health Foundation of the Gastroenterological Society of Australia has recently produced some very detailed guidelines for clinicians treating adult patients with reflux disease, which consider treatment approaches in more detail.[1] These guidelines are a valuable resource for those seeking further guidance in this area.

When Barrett's epithelium is present

The recommendation to examine for Barrett's epithelium (Figure 6) recognises that this premalignant condition, which is associated with gastro-oesophageal reflux disease, leads to an approximately sixfold increase in the risk of oesophageal adenocarcinoma. There is some recent evidence to suggest that reflux in the presence of Barrett's epithelium should be treated more aggressively, with documentation of adequate acid suppression on therapy by a 24-hour pH study – although there is no proven treatment that reduces the subsequent cancer risk.

In most instances, dysplasia is thought to precede the development of adenocarcinoma in Barrett's epithelium, and thus Barrett's has come to be regarded as an indication for ongoing endoscopic surveillance in otherwise well patients. Surveillance is clearly not indicated for patients who are not candidates for oesophagectomy. It should also be recognised that there are many continuing controversies regarding the definition, detection, diagnosis, number of surveillance biopsies, frequency of screening, timing of oesophagectomy and histological interpretation in Barrett's. New endoscopic techniques to better target biopsies or to ablate Barrett's epithelium are currently being trialled and, if successful, may reduce the subsequent risk of adenocarcinoma by either improving our screening programs or obviating the need for ongoing surveillance and/or oesophagectomy.

Figure 6. Barrett's epithelium (columnar metaplasia).

PHOTOGRAPH COURTESY OF DR CHRIS POKORNY, SYDNEY

Patients with documented Barrett's epithelium should be assessed by a gastroenterologist, and a personalised management plan should be discussed.

When Barrett's epithelium is absent

Treatment of gastro-oesophageal reflux disease in the absence of Barrett's epithelium can be graded by patient need and endoscopic findings. Simple antacids may be all that is required in some cases, with H_2-receptor antagonists and then proton pump inhibitors used in a sequential fashion to manage more severe disease – although now that proton pump inhibitors are available off authority they have become the treatment of choice for those patients with erosive oesophagitis and those requiring prescription medication to control symptomatic nonerosive reflux disease.[1]

It is still important to advise patients of appropriate dietary and lifestyle modifications, because medications decrease the acidity of oesophageal contents but do not restore the normal anatomy of the oesophagogastric junction. Recommended dietary measures include:

- smaller meals
- avoidance of high fat foods

- limiting the amount of coffee, alcohol and chocolate.

Other helpful measures are:

- elevation of the head of the bed
- bending at the knees rather than the waist
- avoidance of tight-waisted clothes, especially after eating
- eating the evening meal two to three hours before retiring to bed
- weight loss
- smoking cessation.

Since the finding that cisapride was possibly associated with cardiac arrhythmias, prokinetic agents are less frequently used, except in exceptional cases. In any case, in the presence of a hiatus hernia, a prokinetic cannot be expected to ameliorate the anatomical disturbance, but may decrease the volume and duration of refluxate. Patients requiring prokinetic therapy in addition to high dose acid suppression to control reflux symptoms should be assessed by a specialist to re-evaluate the diagnosis, exclude other contributory factors and consider surgical referral.

Antireflux surgery is an option for the long term treatment of gastro-oesophageal reflux disease, particularly in areas where there is local expertise in laparoscopic fundoplication. Surgery has the advantage of being able to address the anatomical abnormality of the hernia and restore the antireflux action of the oesophagogastric junction.

Iron deficiency associated hernia

In patients with proven iron deficiency and a hiatus hernia, the hernia may be the cause of blood loss, but other diagnoses should first be excluded unless a bleeding (or large) ulcer is found within the hernial sac. As mentioned previously, dual gastrointestinal pathology may be present, particularly in older patients in the setting of proven iron deficiency. For this reason, a colonic examination is recommended along with a small bowel biopsy to avoid missing other significant lesions.

In addition to specific treatment of any lesion found, the iron deficiency itself must be corrected. To avoid confusion, iron therapy should be continued until the iron stores are replenished (usually over a six-month period), otherwise recurrent deficiency may manifest. This sometimes leads to the unfortunate clinical situation where one is unsure whether there is ongoing blood loss or simply a failure to adequately replace iron initially. This then leads to unnecessary duplication of investigations and significant distress to the patient. Adequate replacement must be documented by iron studies.

Hernias associated with oesophageal motor disorders

Although oesophageal motor disorders can be suspected from history alone, they are best diagnosed by oesophageal manometry and careful cineradiology (with solids and liquids). The management is as for the motor abnormality, and no specific measures for the hernia are required. Specialist assessment is usually required in this area, with some units having particular expertise in the evaluation of oesophageal motor function. Oesophageal motor disorders are also commonly associated with reflux, and the reflux requires treatment along standard lines (as above), with the caveat that antireflux surgery should only rarely be considered in the presence of impaired oesophageal motor function.

Large sliding hernias and paraoesophageal hernias

Large sliding hernias and paraoesophageal hernias may require surgical treatment, especially if they are fixed or painful. Patients presenting with large hernias should be referred for specialist medical and surgical assessment.

Conclusion

Hiatus hernias are very common, especially in older patients. They do not usually cause symptoms in themselves but are frequently associated with other upper gastrointestinal disease – in particular, gastro-oesophageal reflux disease, gastric erosions or ulcers, and oesophageal motor disorders. Treatment should be directed at the primary symptomatic lesion; although in occasional cases it will be the hernia itself that requires treatment, which is usually surgical. MT

Reference

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Further reading

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