Hiatal Hernia

Basics

On its course from the neck into the stomach the esophagus (gullet) traverses through a small hole in the diaphragm (the hiatus). Small and large hernia is defined by a diameter of 3 cm, respectively.

Causes

Life style and eating behavior weaken the anti reflux mechanism in the lower portion of the esophagus. Over time repeated gastric over-distensions over-stretch the lower portion of the esophagus. As a consequence the lower portion of the esophagus permanently dilates and increases the diameter of the hole in the diaphragm: this is the hiatal hernia. Over time the hiatal hernia increases in size and allows the proximal stomach to move above the level of the diaphragm.

Symptoms

Symptoms of hiatal hernia include heartburn, acid regurgitation, wheezing, coughing and asthma. You may also perceive difficulties at swallowing.

Diagnosis and tests

The diagnosis of the hiatal hernia includes gastroscopy, esophageal manometry and esophageal reflux monitoring. Gastroscopy assesses the size of the hernia and reflux esophagitis (inflammation of the esophagus). Videokinematography, this is a radiologic test, confirm the presence of the hiatal hernia and alteration of the geometry of the lower portion of the esophagus. Esophageal manometry assesses the dysfunction of the anti reflux mechanism. Reflux monitoring proofs the reflux and the association between reflux and symptoms.

Treatment

Treatment of the hiatal hernia happens during the anti reflux surgery. During the laparoscopic operation (magnetic ring, fundoplication) we reposition the stomach and the esophagus. Then we reduce the size of the diaphragmatic hole. For this purpose we apply 2-5 sutures between the edges of the diaphragm. These sutures do not narrow the passage of the esophagus. This is important to prevent postoperative dysphagia (difficulty at swallowing). In cases of large hiatal hernia (> 7 cm) implantation of a prosthetic mesh is used to prevent re-herniation.

Self care

Self care for small hiatal hernias (3cm). In any case we recommend gastroscopy, esophageal manometry and esophageal reflux monitoring.

Prevention
Prevention of hiatal hernia means to avoid the over-stretch of the stomach, the lower portion of the esophagus and the diaphragm. This is optimally achieved by avoiding large, heavy meals (before bedtime), carbonated drinks, juices, alcohol and cigarette smoking. During smoking the swallowed air over-distends the stomach and facilitates mechanisms leading to reflux, heartburn and the formation of the hiatal hernia.

**Complication**

Complication of the hiatal hernia includes incarceration (stomach, esophagus get stuck in the diaphragmatic hole) with acute chest pain, nausea, vomiting and fever. We recommend the acute operation. Long-term complication of hiatal hernia includes Barrett's esophagus and cancer.

**Self test**

Chest pain after a large meal may indicate the formation of a hiatal hernia. Medical therapy with proton pump inhibitor may cause chest pain relief. This indicates reflux. We recommend gastroscopy and esophageal function tests (manometry, reflux monitoring). A radiologic test (videokinematography) is helpful to reconfirm the diagnosis.

**Expert opinion**

**Martin Riegler (Surgeon, Vienna).** Large hernias harbor the risk for incarceration. In addition hernias can impair breathing and swallowing. During the laparoscopic operation we reposition the esophagus. Thereafter we repair the hernia by reducing the size of the hernia.

**Johannes Lenglinger (Physiologist, Vienna).** Hiatal hernia produces highly specific pressure topography. Manometry shows 2 pressure bands, one belongs to the diaphragm, the other, upper one is the displaced pressure band of the anti reflux mechanism. These findings indicate the hiatal hernia. These data are important to tailor the surgery.

**Literature**