

# Achalasia Cardia

## What is achalasia cardia?

Achalasia cardia or achalasia is an uncommon disorder that causes difficulty in swallowing. Although the condition cannot be cured, the aim of the treatment is relief of symptoms.

## What causes achalasia?

The main cause of achalasia is degeneration of the nerve cells in the esophagus (the food pipe). The exact reason why this happens is not known. The loss of nerve cells in the esophagus causes two major problems that interfere with swallowing. Firstly, the muscles that line the esophagus do not contract normally, so that swallowed food is not pushed forward through the esophagus and into the stomach properly. Secondly the lower esophageal sphincter (LES), a valve made of muscles, does not relax with swallowing as it does in normal people. As a result, the esophagus above the persistently contracted LES starts to dilate, and large volumes of food and saliva can accumulate in the dilated esophagus.

## What symptoms do patients with achalasia experience?

The commonest symptom of achalasia is difficulty in swallowing. Patients get a sensation that swallowed food as well as liquids get stuck in the chest. This problem invariably progresses and becomes severe. Other symptoms include regurgitation of swallowed food and liquid, chest pain, heartburn, a sensation of fullness or a lump in the throat, hiccups, and weight loss.

## How is achalasia diagnosed?

The doctors can suspect achalasia based on the symptoms and order certain tests to confirm the diagnosis.

**Barium swallow:** The barium swallow involves swallowing a milky liquid of barium while x-rays are taken. In patients with achalasia the barium swallow shows a narrow region at the lower end of the esophagus (bird's beak) with a dilated esophagus above this

**Endoscopy:** In this test the doctor passes a thin, lighted, flexible tube via the mouth to see the inside of the esophagus, LES, and stomach. Patients are usually given an intravenous sedative during the endoscopy procedure to make them sleepy and relaxed.

**Manometry:** Manometry involves the passage of a thin tube through the mouth or nose into the esophagus. The tube is lined by numerous pressure sensors that convey pressures within the esophagus to a device. The tests measures the changes in pressures within the esophagus that are caused by the contraction of the muscles esophagus. Manometry is almost always used to confirm the diagnosis of achalasia. The test typically reveals three abnormalities in people with achalasia: high pressure in the LES at rest, failure of the LES to relax after swallowing, and an absence of useful (peristaltic) contractions in the lower esophagus.

## How is achalasia treated?

The various options available for treating patients with achalasia do not stop or reverse the underlying loss of nerve cells in the esophagus or restore the normal peristaltic contractions. Rather, the treatments aim to weaken the lower esophageal sphincter (LES) muscle to the point that it no longer acts as a barrier to the passage of food and liquids.

**Drugs:** Two types of drugs, nitrates and calcium channel blockers, may be used for relaxing the LES muscle. However, in the long term the drug therapy is inconvenient, ineffective, and often associated with unpleasant side effects, such as headache and low blood pressure. Also, the drugs tend to become less effective when taken over a period of time.

**Balloon dilatation:** This procedure is carried out under sedation. After preliminary endoscopy, a collapsed balloon is passed through the mouth and positioned in the region of

the LES using guidance from an x-ray machine. It is then inflated in order to tear the muscle of the LES. The effect of a balloon dilatation in relieving the symptoms is temporary; most patients require multiple balloon dilatations at progressively shorter intervals and eventually require surgery. The most serious complication of a balloon dilatation is perforation (creation of a hole) of the esophagus, which occurs in 1% – 6% patients. The risk of a perforation increases with repeated dilatations. Because the LES has been made ineffective, 2% – 5% patients also develop gastroesophageal reflux disease (GERD) after balloon dilation. Also, after repeated dilatations the surgery, when it is eventually required, becomes more challenging. For these reasons, this treatment is best reserved for patients who are unfit for surgery due to old age or medical conditions which make administration of general anesthetic risky. Young and fit patients not wishing to undergo surgery upon diagnosis of achalasia may be offered one dilatation, but are best counseled regarding surgery when the symptoms recur.

**Botulinum toxin injection:** Injection of botulinum toxin (botox) into the LES under endoscopic guidance temporarily paralyzes the nerves that make the LES contract, thereby helping to relieve the obstruction. The relief of symptoms with this expensive therapy is short term (3 – 12 months). Also, repeated injections create scarring in the muscles of the LES, and make the subsequent surgery more challenging. This treatment, once quite popular, has fallen out of vogue recently.

### **How can surgery help patients with achalasia?**

The surgery performed to treat patients with achalasia is called cardiomyotomy (division of the muscles of the LES and upper end of stomach). In the past this surgery was performed through a large open incision in the upper abdomen. Today, it is carried out laparoscopically.

### **How is a laparoscopic cardiomyotomy performed?**

This operation is performed under general anesthesia. The surgeon makes a small (1cm) in the upper abdomen and introduces a cannula or a tube inside the abdomen. He will insert a telescope attached to a miniature video camera through the cannula that gives him and the operating team a magnified view of your internal organs on a video monitor. He will then place four other additional cannulas through tiny (5mm) cuts to accommodate special long instruments. At the surgery, the LES and the muscle layer in the upper part of the stomach are divided precisely under the magnified view. As division of LES makes the patient prone to GERD, a part of the stomach called fundus is rotated around and fixed in such a way that it creates a fundoplication or a weak valve. This prevents the acid from the stomach from coming back into the esophagus.

### **What happens after a laparoscopic cardiomyotomy?**

The patient does experience some amount of pain for about 12 to 24 hours after laparoscopic fundoplication depending on individual tolerance. Also, some nausea and vomiting is not uncommon in the first 12 hours. Patients are always given medications to relieve the pain and take care of the nausea. Usually, the patient is allowed to drink fluids within 6 to 8 hours of surgery and is allowed soft blenderized food from the day after surgery. Activity is dependent on how the patient feels, but all patients are encouraged to get up and walk as soon as they are comfortable. Most patients go home within a 48 – 72 hours after laparoscopic cardiomyotomy. In general, patients recover completely within 10 – 15 days. All patients having a cardiomyotomy need to follow a blenderized diet for around 6 weeks as the area of surgery is healing. Also they are advised to avoid eat slowly, eat small frequent meals and avoid carbonated drinks. After the initial period of 6 weeks a patient is allowed to eat normal food.

### **How soon can I resume work?**

In our society patients often prefer to take things easy for weeks after any operation because of a fear that they may harm themselves by being active. After laparoscopic cholecystectomy the recovery is quite rapid. Soon after returning home the patients are allowed all activities they feel comfortable with. Depending on the nature of their job, most patients are able to return to work within ten to fifteen days following a laparoscopic cardiomyotomy. Patients with light, desk jobs usually return in a few days while those involved in heavy lifting may require a little more time.

### **What are the advantages of laparoscopic cardiomyotomy?**

- Less pain from the incisions after surgery
- Shorter hospital stay
- Shorter recovery time
- Faster return to normal diet
- Faster return to work or normal activity
- Better cosmetic healing
- What follow up is required after surgery?

Since none of the treatments for achalasia cure the underlying disease, regular follow-up is essential. People with achalasia have an increased risk of developing esophageal cancer and after surgery there is a small chance of developing gastroesophageal reflux (GERD). The follow up is aimed at recognizing and treating recurrent symptoms or complications of treatment (eg, GERD) early.

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