

This factsheet is about Sphincter of Oddi dysfunction

The Sphincter of Oddi is a round muscle, which acts like a valve. It is located where the tubing (bile ducts) from the gallbladder and the pancreas join and enter the intestine (duodenum). The sphincter is normally closed but opens in response to eating, allowing digestive juices to flow into the duodenum to help digest food. The digestive juices include bile (produced in the gallbladder) and pancreatic juices (from the pancreas). In Sphincter of Oddi Dysfunction (SOD), the sphincter does not open normally, preventing the flow of digestive juices into the duodenum and causing abdominal pain.

Causes of Sphincter of Oddi dysfunction

The cause of Sphincter of Oddi dysfunction (SOD) is not entirely clear. It is thought that the condition can be caused by the sphincter going into spasm, being too small or not opening and closing in the normal fashion. The spasm of the sphincter is thought to cause severe bouts of abdominal pain. The impaired function of the sphincter can lead to disruption in the flow of digestive juices through the sphincter, causing them to back-up in the bile duct system. Sometimes, this back flow can lead to blockages in the bile duct system or the pancreas, which can cause pancreatitis (inflammation of the pancreas) or abnormal blood tests (liver function). However, in most cases all tests are normal. Other terms sometimes used to define this condition included 'papillary stenosis' and 'biliary dyskinesia'.

People that have had their gallbladder removed have a higher chance of developing Sphincter of Oddi dysfunction but it is not known why this is. Middle-aged women tend to be affected more than others.

What are the usual symptoms?

The most common symptom is abdominal pain. Other symptoms that may rarely be experienced include nausea, vomiting or diarrhoea. Symptoms can come and go, and vary in severity. The pain occurs on the right side of the abdomen just underneath the rib cage, lasts at least 30 minutes, is not improved by bowel movements or changes in posture and can be severe enough to affect daily activities. The symptoms of Sphincter of Oddi dysfunction can sometimes mimic other more serious conditions such as pancreatitis (inflammation of the pancreas), cholecystitis (inflammation of the gallbladder) or cholangitis (inflammation of the bile duct).

How is Sphincter of Oddi dysfunction diagnosed?

When a patient has abdominal pain, the doctor will arrange tests to rule out more serious conditions first. It is important to look for other causes of the pain so blood tests, an ultrasound scan (to look for gallstones) or endoscopy (to look for ulcers) may be arranged. Although these tests are usually normal in patients with SOD, in certain types of the condition, liver function tests can be abnormal.

If routine investigations for abdominal pain are all normal and symptoms are suggestive of Sphincter of Oddi, the doctor may request a procedure called an endoscopic retrograde cholangiopancreatography (ERCP). An ERCP involves using an endoscope, which is a small tube (the width of a small finger), with a camera on the end and is inserted into duodenum via the mouth, to where the Sphincter of Oddi is located. During an ERCP pressure measurements (manometry) of the Sphincter of Oddi may be made and the biliary ducts can be visualised to ensure they are normal – these measurements are complex and can be associated with severe side-effects like pancreatitis, so they are not often required to make the diagnosis. High Sphincter of Oddi pressures can be indicative of Sphincter of Oddi dysfunction.

What can be the impact of Sphincter of Oddi dysfunction?

Sphincter of Oddi dysfunction can impact a person in many ways. These mainly include its overall impact on general wellbeing due to the symptoms. Symptoms from SOD can be long term and occur frequently. It is recognised that ongoing symptoms with no clear cause can cause major upset, frustration and feelings of hopelessness amongst many patients. If any of these feelings are experienced, it is important to let the doctor know, so that appropriate support can be organised.

If you have found this information useful please consider supporting Core

Donate at www.justgiving.com/Core or call 020 7486 0341

Written by Samantha Morgan and Mark Samaan. Published in 2016. Next review in 2018. Full range at www.corecharity.org.uk.
References for this factsheet are available from Core. Please acknowledge source when quoting from this factsheet.

What treatment is available for Sphincter of Oddi dysfunction?

Some patients with SOD can be successfully treated with change of diet, medications or with invasive procedures. Dietary changes can include avoiding sugar, wheat or dairy products. Effects of dietary changes vary from person to person, so referral to a dietician may help so that these options can be explored.

There are many different types of medication which are tried to ease pain. These include anti-spasmodics, calcium channel blockers (for example nifedipine), nitrates and simple painkillers. It is important to note that morphine containing painkillers or morphine itself can sometimes make the pain worse as it can cause the sphincter to go into spasm. The side effects of these medications are often what limits their use, including headaches and low blood pressure. Nausea may need anti-sickness medications.

More invasive treatment is considered if there is no relief from dietary changes or medication, and there is considerable disturbance of daily activities. These include performing an endoscopy to either inject Botox into the sphincter or cut the muscles fibres of the sphincter (sphincterotomy). Botox involves injecting a substance called Botulinum toxin into the sphincter that relaxes the muscle fibres by temporarily paralysing nerves that signal the sphincter to contract. It can help with symptoms for anywhere between a few months to one year but is not a permanent treatment. Sphincterotomy aims to permanently improve symptoms but involves certain risks that would be discussed with the patient in detail before the procedure is planned.

Sphincter of Oddi dysfunction is a difficult condition to manage and treat, so patients often require a referral to a specialist centre if initial treatment has not helped with symptoms.

Does Sphincter of Oddi dysfunction need to be monitored and, if so, how?

If the symptoms of Sphincter of Oddi are well controlled then regular follow-up with a doctor is not necessarily required. However, in many cases the symptoms can come and go, in which case regular follow-up would be useful to ensure that new treatments for symptom control can be considered. If endoscopic procedures such as Botox or sphincterotomy have been carried out, then regular follow-up to assess their effectiveness are useful. Occasionally, SOD can mimic other more serious conditions such as pancreatitis (inflammation of the pancreas), cholecystitis (inflammation of the gallbladder) or cholangitis (inflammation of the bile duct). If pain is more severe, constant, the patient is more unwell or feverish, see a doctor immediately.

How does Sphincter of Oddi dysfunction behave over time?

Sphincter of Oddi dysfunction is typically a lifelong condition, which can be controlled using medication, dietary changes or invasive procedures. However, some patients may never gain control of symptoms despite treatment.

What to ask your doctor when you see them?

May I be referred to a dietician to see if there are any changes to my diet that may help with my symptoms?
Which treatment option is best for me? May I be referred to a specialist?

What more research needs to be done on Sphincter of Oddi dysfunction?

Further research into the underlying causes of Sphincter of Oddi dysfunction may help the development of more targeted treatments. This includes exploring better medical therapies for patients to avoid invasive procedures.

For more information about research in this area please contact Core.

If you have found this information useful please consider supporting Core

Donate at www.justgiving.com/Core or call 020 7486 0341

Written by Samantha Morgan and Mark Samaan. Published in 2016. Next review in 2018. Full range at www.corecharity.org.uk.
References for this factsheet are available from Core. Please acknowledge source when quoting from this factsheet.

All content provided for information only. The information found is not a substitute for professional medical care by a qualified doctor or other health care professional. ALWAYS check with your doctor if you have any concerns about your condition or treatment. The publishers are not responsible or liable, directly or indirectly, for ANY form of damages whatsoever resulting from the use (or misuse) of information in this factsheet.

Please contact us if you believe any information in this factsheet is in error.