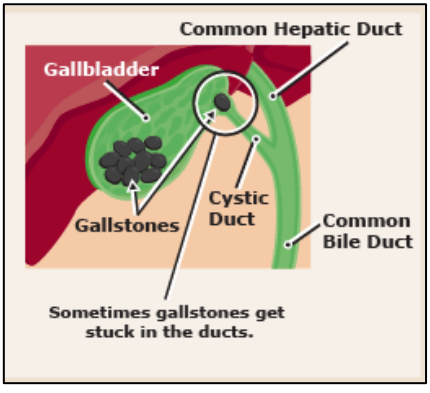
Indian Association of Pediatric Surgeons

Patient Information Sheet

GALL STONES



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for & on behalf of the Indian Association of Pediatric Surgeons

What are gall stones ?

Gall stones, also known as cholelithiasis, refer to stones in the gall bladder. The gall bladder is a small sac like structure under the liver that stores bile. Bile is a mixture of digestive juices from the liver that are excreted into the intestines in response to any fatty substance in the intestine. Thus bile helps to digest fat.

What causes this problem and how common is it ?

The cause of this problem is usually unknown. There are certain blood disorders like sickle cell disease or spherocytosis that are responsible to cause some of the stones known as pigment stones. These black pigment stones comprise of 50 % of gallstones in children. Cholesterol and calcium carbonate stones account for about 25 % each of the stones in children. Protein gallstones account for about 5% of gall stones in children. Other predisposing factors include obesity, family history, prolonged parenteral nutrition, certain medicines and Crohn's disease. Genetic conditions, such as progressive familial intrahepatic cholestasis type 3, can also predispose to gallstone formation in children. Some studies suggest that almost 1-2 children out of 100 may have gallstones.

What are the symptoms ?

The common symptoms include pain in the right upper or upper middle part of the abdomen, particularly after meals. Nausea and vomiting may occur. If the gallstone blocks a duct or causes infection, a child may also other symptoms like fever and jaundice.

When to see your doctor ?

The doctor should be consulted if above symptoms appear. The surgeon also needs to be shown if the stones are picked up without any symptoms for an ultrasound done for any other condition.

How is it diagnosed ?

The gall bladder is best seen on ultrasound when we are fasting. Hence the radiologist calls for a fasting ultrasound.

What are the treatments available ?

The treatment is mainly surgical that involves removal of the gall bladder. It is known as cholecystectomy.

Are there any alternatives to surgery ?

For smaller stones, bile acids like ursodeoxycholicacid may be given. It liquefies the bile, changes bile composition and increases the bile formation. Tiny concretions may be dissolved and also flushed through.

What does the operation involve ?

The operation can be done by a laparoscopic or an open method. In the open method one cut approximately 4-5 cm is made in the upper right abdomen. In the laparoscopic method 3-4 small cuts of approximately 1 cm are made in different parts of the abdomen. The procedure is done under general anesthesia. The gall bladder is removed.

What are the possible complications / what happens after the operation ?

The most common complication of gallstones in children is pancreatitis. The course is usually mild and resolves spontaneously with passage of the stone.

Infection and inflammation of the gallbladder (cholecystitis) or ductal system (cholangitis) can occur. Rarely, the gall bladder may perforate.

Removal of the gallbladder has no permanent effect on a child's life, except some discomfort in digesting fatty food sometimes.

Complications during surgery include injury to surrounding structures (especially the common bile duct), bile leakage, wound infection etc.

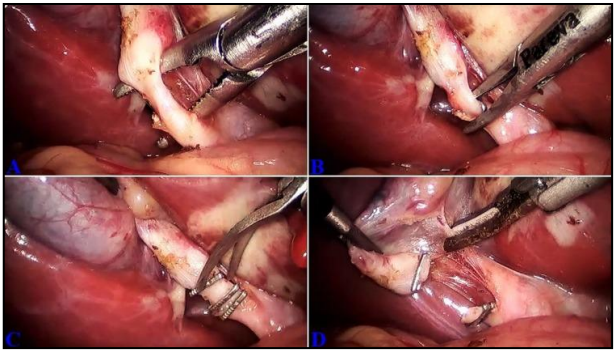
Oral feeding is resumed in a day or two if there are no complications.

What is the outlook or future of these children ?

The child should be able to eat normally and continue with normal activities after having the surgery.

Gall stone as seen on an ultrasound scan

Cholesterol and pigment gall stones



Views of laparoscopic cholecystectomy