APSA
American Pediatric
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Saving Lifetimes

Pancreas Divisum

Patient and family information, brought to you by the Education Committee of APSA

Overview - “What is it?”

The pancreas is an organ that sits behind the stomach and secretes chemicals (called enzymes) that help in digestion.

Pancreas divisum is a congenital (meaning present at birth) pancreatic abnormality in which two parts of the pancreas fail to come together while the baby is developing inside the uterus (Figure 1). The digestive juice that the pancreas makes drains into the intestine through a tubular structure. Because of the failure of the pancreas to fuse, the duct does not drain the digestive juice effectively. The opening of the main pancreatic duct is narrowed.

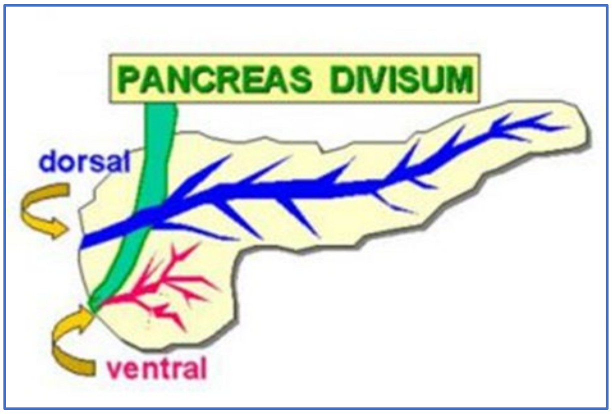

Figure 1

The number of people affected is unclear, but it is believed to be present in as many as 5 to 10% of people. Pancreas divisum is sometimes associated with choledochal cysts or intestinal malrotation. These are congenital abnormalities of the gallbladder and intestines that occur during development.

Signs and Symptoms - "What symptoms will my child have?"

The majority of individuals born with pancreas divisum experience no symptoms throughout life. These individuals will remain undiagnosed and do not require treatment. Approximately 5% of people will develop symptoms.

Common symptoms include:

- Abdominal bloating and/or pain which is usually in the mid-abdomen (middle area of the upper belly) and sometimes radiates to the back
- Jaundice (or yellowing of the skin)
- Nausea
- Food intolerance
- Recurrent episodes of pancreatitis (inflammation of the pancreas)

Diagnosis - "What tests are done to find out what my child has?"

The diagnosis of pancreas divisum is usually made by **endoscopic retrograde cholangiopancreatography** (ERCP). ERCP is a special test where your child is sedated so that a flexible camera (called an EGD – esophagogastroduodenoscopy) can be inserted through the mouth down to the level of the pancreas to visualize the anatomy of the ducts. (Figure 2)

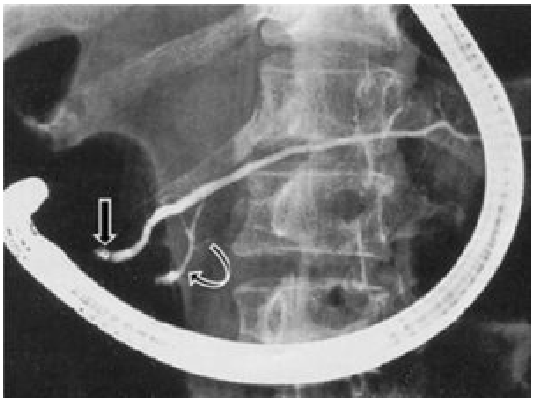

Figure 2: Image from an ERCP

Magnetic resonance cholangiopancreatography (MRCP) has also been used successfully. It is an MRI scan specific for the pancreas.

Magnetic Resonance Imaging (MRI)—uses a magnet, radio waves, and computer to obtain images of organs in the body. MRI does not use radiation. This often requires some sedation for infants and young children.

Other tests that are occasionally done are abdominal ultrasounds, CT scans, amylase, and lipase (blood tests for the pancreas function).

Treatment - “What will be done to make my child better?”

Endoscopic sphincteroplasty: The goal of endoscopic (flexible tube-like camera inserted into the intestines) therapy is to relieve the obstruction of the ducts that drain fluid from the pancreas to the intestines. This is done by enlarging or cutting the opening (sphincter) that will allow the pancreatic juice to drain into the intestines.

Informed consent: A consent form is a legal document that states the tests, treatments, or procedures that your child may need and the doctor or practitioner that will perform them. Before surgery, your doctor should tell you what the operation is, the goal of the surgery and other possible treatment options that are available. Your doctor should explain the risks and benefits of the surgery. You give your permission when you sign the consent form. You can have someone sign this form for you if you are not able to sign it. You have the right to understand your child’s medical care in words you know. Before you sign the consent form, make sure all of your questions are answered. It is important to know that during surgery, there are things that can happen that your doctor may have not predicted before going in. He or she will explain these to you after the surgery.

Preoperative preparation: depends on the condition of the child. If your child is dehydrated, has a bacterial blood infection (cholangitis), or currently suffering from inflammation of the pancreas, then these conditions need to be taken care of prior to the procedure (fluids, antibiotics, pancreatic rest).

Postoperative care: Your child will recover in a monitored surgical ward, and the length of the hospital stay depends upon the child’s age, how healthy they were before the procedure, and if there are any complications after the procedure (see risks below).

Benefits: Ability of pancreas to drain pancreatic juice effectively, relief of symptoms and recurrent pancreatitis.

Risks: Immediate complications are injury to the esophagus, stomach or intestines, bleeding, infection, and pancreatitis (inflammation of the pancreas).

Home Care - “What do I need to do once my child goes home?”

Diet: No dietary restrictions are necessary, and children are often allowed to resume their normal diet. If the child is recovering from pancreatitis, a low-fat diet may be recommended.

Activity: No activity restrictions apply. Your physician will give you specific instructions.

Medicines: Mild pain relievers may be needed for the first few days after the procedure.

What to call the doctor for: Fevers, vomiting or food intolerance, yellowing of the skin or eyes, or worsening belly pain

Follow-up care: Appointments may be frequent for the first month, and further endoscopic procedures may be necessary. Your physician will give you specific instructions for follow up.

Long Term Outcomes - “Are there future conditions to worry about?”

Long-term results are dependent upon the procedure performed and associated abnormalities. Most patients have excellent long-term results.

Updated: 2019
Authors: Romeo C. Ingacio, Jr., MD; L. Prescher, MD
Editors: Patricia Lange, MD; Marjorie J. Arca, MD; Andrea Lo, MD