Primary Sclerosing Cholangitis

Subjects: Genetics & Heredity

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Primary sclerosing cholangitis is a condition that affects the bile ducts. These ducts carry bile (a fluid that helps to digest fats) from the liver, where bile is produced, to the gallbladder, where it is stored, and to the small intestine, where it aids in digestion. Primary sclerosing cholangitis occurs because of inflammation in the bile ducts (cholangitis) that leads to scarring (sclerosis) and narrowing of the ducts. As a result, bile cannot be released to the gallbladder and small intestine, and it builds up in the liver.

genetic conditions

1. Introduction

Primary sclerosing cholangitis is usually diagnosed around age 40, and for unknown reasons, it affects men twice as often as women. Many people have no signs or symptoms of the condition when they are diagnosed, but routine blood tests reveal liver problems. When apparent, the earliest signs and symptoms of primary sclerosing cholangitis include extreme tiredness (fatigue), discomfort in the abdomen, and severe itchiness (pruritus). As the condition worsens, affected individuals may develop yellowing of the skin and whites of the eyes (jaundice) and an enlarged spleen (splenomegaly). Eventually, the buildup of bile damages the liver cells, causing chronic liver disease (cirrhosis) and liver failure. Without bile available to digest them, fats pass through the body. As a result, weight loss and shortages of vitamins that are absorbed with and stored in fats (fat-soluble vitamins) can occur. A fat-soluble vitamin called vitamin D helps absorb calcium and helps bones harden, and lack of this vitamin can cause thinning of the bones (osteoporosis) in people with primary sclerosing cholangitis.

Primary sclerosing cholangitis is often associated with another condition called inflammatory bowel disease, which is characterized by inflammation of the intestines that causes open sores (ulcers) in the intestines and abdominal pain. However, the reason for this link is unclear. Approximately 70 percent of people with primary sclerosing cholangitis have inflammatory bowel disease, most commonly a form of the condition known as ulcerative colitis. In addition, people with primary sclerosing cholangitis are more likely to have an autoimmune disorder, such as type 1 diabetes, celiac disease, or thyroid disease, than people without the condition. Autoimmune disorders occur when the immune system malfunctions and attacks the body's tissues and organs. People with primary sclerosing cholangitis also have an increased risk of developing cancer, particularly cancer of the bile ducts (cholangiocarcinoma).

2. Frequency

An estimated 1 in 10,000 people have primary sclerosing cholangitis, and the condition is diagnosed in approximately 1 in 100,000 people per year worldwide.

3. Causes

Primary sclerosing cholangitis is thought to arise from a combination of genetic and environmental factors. Researchers believe that genetic changes play a role in this condition because it often occurs in several members of a family and because immediate family members of someone with primary sclerosing cholangitis have an increased risk of developing the condition. It is likely that specific genetic variations increase a person's risk of developing primary sclerosing cholangitis, and then exposure to certain environmental factors triggers the disorder. However, the genetic changes that increase susceptibility and the environmental triggers remain unclear.

There is evidence that variations in certain genes involved in immune function influence the risk of developing primary sclerosing cholangitis. The most commonly associated genes belong to a family of genes called the human leukocyte antigen (HLA) complex. The HLA complex helps the immune system distinguish the body's own proteins from proteins made by foreign invaders (such as viruses and bacteria). Each HLA gene has many different normal variations, allowing each person's immune system to react to a wide range of foreign proteins. Specific variations of several HLA genes seem to be present more often in people with primary sclerosing cholangitis than in people who do not have the disorder. These variations may dysregulate the body's immune response, leading to the inflammation of the bile ducts in people with primary sclerosing cholangitis. However, the mechanism is not well understood. Researchers are also studying variations in other genes related to the body's immune function to understand how they contribute to the risk of developing this condition.

4. Inheritance

The inheritance pattern of primary sclerosing cholangitis is unknown because many genetic and environmental factors are likely to be involved. This condition tends to cluster in families, however, and having an affected family member is a risk factor for developing the disease.

5. Other Names for This Condition

- PSC
- sclerosing cholangitis

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