Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for small intestine cancer.

- What Are the Risk Factors for Small Intestine Adenocarcinoma?
- Do We Know What Causes Small Intestine Adenocarcinoma?

Prevention

There is no sure way to prevent small intestine cancer. But there are things you can do that might lower your risk. Learn more.

- Can Small Intestine Adenocarcinoma Be Prevented?

What Are the Risk Factors for Small Intestine Adenocarcinoma?

A risk factor is anything that changes your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer. Smoking is a risk factor for many cancers. But risk factors don’t tell us everything. Someone without any risk factors can develop cancer, and having a risk factor, or even several, does not mean that you will get the disease. Because small intestine adenocarcinoma is so uncommon, risk factors for this disease have been hard to study. Some of the known risk factors include:

Sex
Small intestinal adenocarcinoma occurs slightly more often in men than in women.

**Age**

Small intestinal adenocarcinoma becomes more common as people get older. The average age of people when they are diagnosed is about 60.

**Smoking and alcohol use**

Some, but not all, studies have found an increased risk with either smoking or drinking alcohol.

**Celiac disease**

For people with celiac disease, eating gluten (a protein that is found in wheat and other types of grain) causes the body to make antibodies that then attack the lining of the intestines. The damaged lining makes it hard to digest and absorb the nutrients from food, often leading to diarrhea and weight loss. People with celiac disease have an increased risk of a certain kind of lymphoma of the intestine called enteropathy-associated T-cell lymphoma. They may also have an increased risk of small intestine adenocarcinoma. This disease is also known as celiac sprue and gluten-sensitive enteropathy.

**Colon cancer**

Survivors of colon cancer have an increased risk of getting cancer of the small intestine. This could be due to shared risk factors.

**Crohns disease**

Crohns disease is a condition in which the immune system attacks the gastrointestinal (GI) tract. This disease can affect any part of the GI tract, but it most often affects the lower part of the small intestine. People with this condition have a risk of small bowel adenocarcinoma that is much higher than normal. These cancers are most often seen in the ileum.
Diet

One study has shown that a diet high in fiber may help lower the risk of small intestine cancer.

Inherited causes

People with certain inherited conditions have a higher risk of small intestine adenocarcinoma.

Familial adenomatous polyposis (FAP)

In this condition, many (even hundreds) of polyps develop in the colon and rectum. If the colon isn’t removed, one or more of these polyps will become cancerous. Polyps in the stomach and the small intestine are also part of this syndrome, and they can lead to cancers in these areas. In FAP, most small intestine cancers are found in the duodenum. This condition is caused by an abnormal change (mutation) of the gene APC and is discussed more in Colorectal Cancer.

Hereditary nonpolyposis colorectal cancer (HNPCC)

Another name for HNPCC is Lynch syndrome. In most cases, this disorder is caused by a defect in either the gene MLH1 or the gene MSH2, but at least 5 other genes can cause HNPCC: MLH3, MSH6, TGBR2, PMS1, and PMS2. An abnormal copy of any one of these genes reduces the body’s ability to repair damage to its DNA. This results in an increased risk for cancer of the colon and small intestine, as well as a high risk of endometrial and ovarian cancer. People with this syndrome have up to a 4% chance of developing small intestine cancer. This condition is also discussed in Colorectal Cancer.

Peutz-Jeghers syndrome (PJS)

People with this condition develop polyps in the stomach and intestines, as well as in other areas including the nose, the airways of the lungs, and the bladder. The polyps in the stomach and intestines are a special type called hamartomas. They can cause problems like bleeding or blockage of the intestines. People with PJS can also have dark freckle-like spots on the lips, inner cheeks and other areas. PJS can increase the risk of many types of cancer, including small intestine adenocarcinoma. This syndrome is caused by mutations in the gene STK1.
**MUTYH-associated polyposis**

People with this syndrome develop colon polyps which will become cancerous if the colon is not removed. They also can get polyps in the small intestine and have an increased risk of small intestine cancer. Other cancers that can occur in people with this syndrome include cancers of the skin, ovary, and bladder. This syndrome is caused by mutations in the gene *MUTYH*.

**Cystic fibrosis (CF)**

People with this condition have severe lung problems. Often, in someone with CF, the pancreas cannot make the enzymes that break food down so that it can be absorbed. People with CF have an increased risk of adenocarcinoma of the ileum. The gene that causes CF is called *CFTR*. A child must have 2 abnormal copies of this gene (one from each parent) to get this disease.

- **References**
  See all references for Small Intestine Cancer

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**Do We Know What Causes Small Intestine Adenocarcinoma?**

Very little is known about the causes of small intestine adenocarcinoma. In fact, many experts wonder why it’s so rare. The small intestine is the longest structure in the gastrointestinal tract, yet it has only 2% or less of the adenocarcinomas.

Scientists have recognized some DNA changes in the small intestine adenocarcinoma cells that are probably responsible for their increased growth and abnormal spread. Many of these tumors show specific genetic abnormalities. But what causes these changes is not yet known.
One cause of these cancers is thought to be problems repairing DNA, the large molecule that contains our genetic material. Certain genes control substances called enzymes that are responsible for repairing DNA when it makes mistakes when reproducing itself. Some have compared this to a spell checker on a computer. Without these spell checker enzymes, mistakes are not corrected and genetic mutations or changes are allowed to persist. These changes may produce abnormal substances that lead to cancer formation.

A second theory is that mutations take place naturally with aging and that some of these will lead to cancer formation.

- References
  See all references for Small Intestine Cancer

Can Small Intestine Adenocarcinoma Be Prevented?

At this time, there is no known way to prevent most cases of small intestine adenocarcinoma. Since smoking may increase the risk of this cancer, not starting or quitting smoking may reduce the risk for this disease.

People with familial adenomatous polyposis (FAP) can have a very high risk of duodenal cancer. Doctors may suggest that these patients have surgery to remove the duodenum before cancer can develop. The procedure most often used is called a pancreaticoduodenectomy, a major operation that removes the duodenum, part of the pancreas, the gallbladder, the common bile duct, and part of the stomach. This surgery is most often done in patients with FAP who have many polyps in the duodenum and so are at a high risk of getting duodenal cancer. This procedure is discussed in more detail in Surgery for Small Intestine Adenocarcinoma.

- References
  See all references for Small Intestine Cancer