

Pancreatic islet cell tumor

Definition

A pancreatic islet cell tumor is a rare tumor of the pancreas that starts from a type of cell called the islet cell.

Alternative Names

Cancer - pancreas; Cancer - pancreatic; Pancreatic cancer; Islet cell tumors; Islet of Langerhans tumor; Neuroendocrine tumors; Peptic ulcer - islet cell tumor; Hypoglycemia - islet cell tumor

Causes

In the healthy pancreas, cells called islet cells produce hormones that regulate a several bodily functions. These include blood sugar level and the production of stomach acid.

Tumors that arise from islet cells of the pancreas can also produce a variety of hormones, which can lead to specific symptoms.

Pancreatic islet cell tumors can be noncancerous (benign) or cancerous (malignant).

Islet cell tumors include:

- Gastrinoma (Zollinger-Ellison syndrome)
- Glucagonoma
- Insulinoma

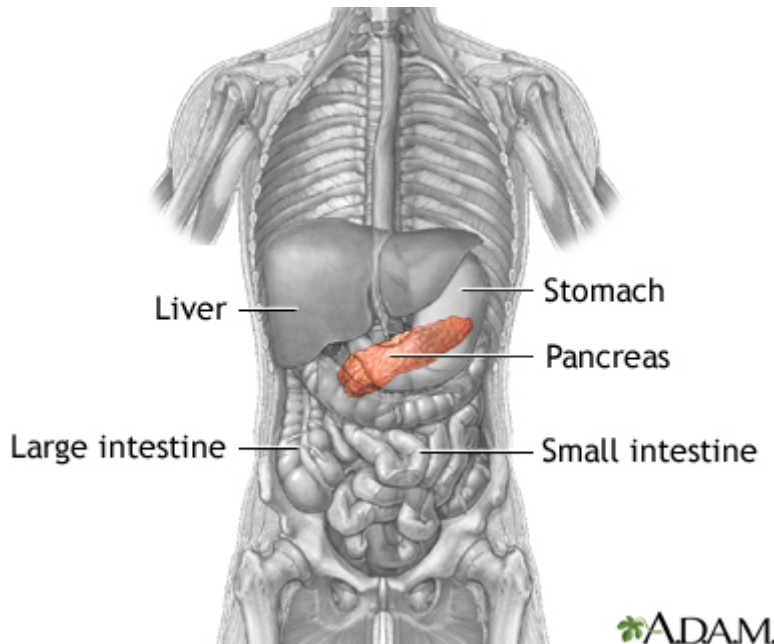
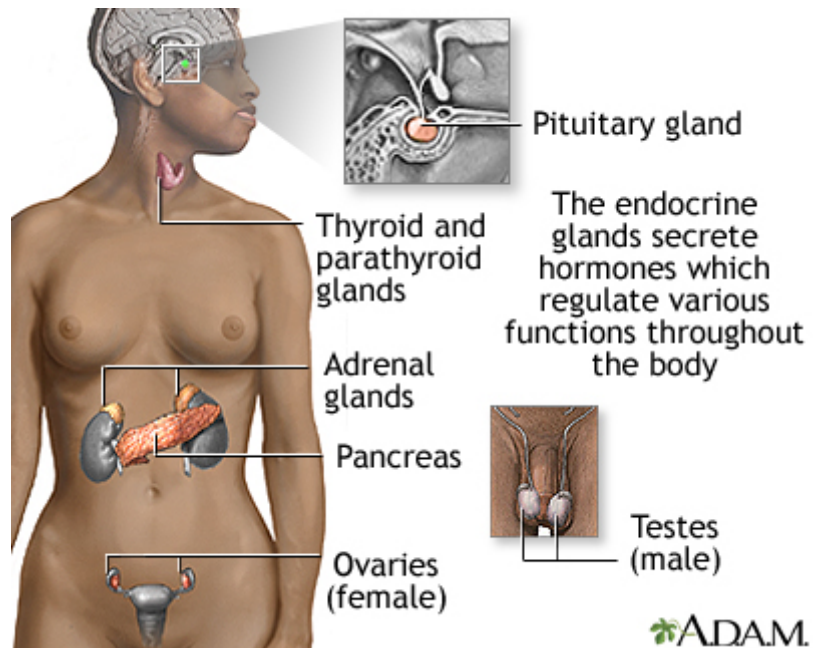
A family history of multiple endocrine neoplasia, type I (MEN I) is a risk factor for the development of islet cell tumors.

Symptoms

Symptoms depend on which hormone is made by the tumor.

For example, insulinomas produce insulin, which lowers blood sugar level. Symptoms may include:

- Feeling tired or weak
- Shaking or sweating
- Headache
- Hunger
- Nervousness, anxiety, or feeling irritable
- Unclear thinking or feeling uneasy
- Double or blurry vision
- Fast or pounding heartbeat



If your blood sugar level gets too low, you may faint, have a seizure, or even go into a coma.

Gastrinomas make the hormone gastrin, which tells the body to make stomach acid. Symptoms may include:

- Abdominal pain
- Diarrhea
- Ulcers in the stomach and small bowel
- Vomiting blood (occasionally)

Glucagonomas make the hormone glucagon, which helps the body raise blood sugar level. Symptoms can include:

- Diabetes
- Red, blistery rash in the groin or buttocks
- Weight loss
- Frequent urination and thirst

Exams and Tests

Blood tests may vary, depending upon the symptoms, but may include:

- Fasting glucose level
- Gastrin level
- Glucose tolerance test
- Secretin stimulation test for pancreas
- Blood glucagon level
- Blood insulin C-peptide
- Blood insulin level

Imaging tests may be done:

- Abdominal CT scan
- Abdominal ultrasound
- Endoscopic ultrasound
- MRI of abdomen

A blood sample may also be taken from a vein in the pancreas for testing.

Sometimes, surgery is needed to diagnose and treat this condition. During this procedure, the surgeon examines the pancreas by hand and with ultrasound.

Treatment

Treatment depends on the type of tumor and if it is cancerous.

Cancerous tumors can grow quickly and spread to other organs. They may not be treatable. Tumors are often removed with surgery, if possible.

If cancer cells spread to the liver, a part of the liver may also be removed, if possible. If the cancer is widespread, chemotherapy may be used to try and shrink the tumors.

If the abnormal production of hormones is causing symptoms, you may receive medicines to counteract their effects. For example, with gastrinomas, the overproduction of gastrin leads to too much acid in the stomach. Medicines that block stomach acid release can reduce symptoms.

Support Groups

You can ease the stress of illness by joining a cancer support group. Sharing with others who have common experiences and problems can help you not feel alone.

Outlook (Prognosis)

You may be cured if the tumors are surgically removed before they have spread to other organs. If tumors are cancerous, chemotherapy may be used, but it usually cannot cure people.

Life-threatening problems (such as very low blood sugar) can occur due to excess hormone production, or if the cancer spreads throughout the body.

Possible Complications

Complications of these tumors include:

- Diabetes
- Hormone crises (if the tumor releases certain types of hormones)
- Severe low blood sugar (from insulinomas)
- Severe ulcers in the stomach and small intestine (from gastrinomas)
- Spread of the tumor to the liver

When to Contact a Medical Professional

Call your health care provider if you develop symptoms of these tumors, especially if you have a family history of MEN I.

Prevention

There is no known prevention for these tumors.

References

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