URL of this page: //medlineplus.gov/ency/article/000347.htm

Carcinoid syndrome

Carcinoid syndrome is a group of symptoms associated with carcinoid tumors. These are tumors most often of the small intestine, colon, appendix, pancreas, or bronchial tubes in the lungs.

Causes

Carcinoid syndrome is the pattern of symptoms sometimes seen in people with carcinoid tumors. These tumors are rare, and often slow growing. Most carcinoid tumors are found in the gastrointestinal tract and lungs.

Carcinoid syndrome occurs in very few people with carcinoid tumors, typically after the tumor has spread to the liver or lung.

These tumors release too much of the hormone serotonin, as well as several other chemicals. These hormones cause the blood vessels to open (dilate). This causes carcinoid syndrome.

Symptoms

The carcinoid syndrome is made up of four main symptoms including:

- Flushing (face, neck, or upper chest), or widened blood vessels seen on the skin (telangiectasias)
- Difficulty breathing, such as wheezing
- Diarrhea
- Heart problems, such as leaking heart valves, blood pressure changes, and heart palpitations

Symptoms are sometimes brought on by physical exertion, or eating or drinking things such as blue cheese, chocolate, or red wine.

Exams and Tests

Often these tumors are found due to symptoms such as weight loss, abdominal pain, and diarrhea. Sometimes they may be discovered during tests or procedures for other conditions.

If a physical exam is done, your health care provider may find signs of:

- Heart valve problems, such as murmur
- Niacin-deficiency disease (pellagra)

- Enlarged liver

Tests that may be done include:

- 5-HIAA levels in urine
- Blood tests (including serotonin and chromogranin A blood tests)
- CT and MRI scan of the chest or abdomen
- Echocardiogram
- A special PET scan called a gallium

Treatment

Surgery to remove the tumor is usually the first treatment. It can permanently cure the condition if the tumor is completely removed.

If the tumor has spread to the liver, treatment involves either of the following:

- Removing areas of the liver that have tumor cells
- Sending (infusing) medicine directly into the liver to destroy the tumors

When the entire tumor can't be removed, removing large portions of the tumor ("debulking") can help relieve the symptoms.

Octreotide (Sandostatin) or lanreotide (Somatuline) injections are given to people with advanced carcinoid tumors that can't be removed with surgery.

For people with advanced carcinoid tumors that can't be removed with surgery, octreotide (Sandostatin) or lanreotide (Somatuline) injections are given to shrink or slow the growth of the tumor.

Some common medicines, like selective serotonin reuptake inhibitors (SSRIs), such as paroxetine (Paxil) and fluoxetine (Prozac), may make symptoms worse by increasing levels of serotonin. However, do not stop taking these medicines unless your provider tells you to do so.

Support Groups

Learn more about carcinoid syndrome and get support from:

- The Carcinoid Cancer Foundation -- www.carcinoid.org/resources/support-groups/directory/ [https://www.carcinoid.org/resources/support-groups/directory/]
- Neuroendocrine Tumor Research Foundation -- netrf.org/for-patients/ [https://netrf.org/for-patients/]

Outlook (Prognosis)

The outlook in people with carcinoid syndrome is different from the outlook in people who have carcinoid tumors without the syndrome. Most people with carcinoid tumors will not develop carcinoid syndrome.

In people with carcinoid syndrome, the tumor has usually spread to the liver. This lowers the survival rate. Overall, the prognosis is usually poor.

Possible Complications

Complications of carcinoid tumors may include:

- Increased risk of falls and injury (from low blood pressure)
- Bowel obstruction (from tumor)
- Gastrointestinal bleeding
- Heart valve failure

A fatal form of carcinoid syndrome, carcinoid crisis, may occur as a side effect of surgery, anesthesia or chemotherapy.

When to Contact a Medical Professional

Contact your provider for an appointment if you have symptoms of carcinoid syndrome.

Prevention

Treating the tumor reduces the risk of carcinoid syndrome.

Alternative Names

Flush syndrome; Functioning argentaffinoma syndrome

References

De Herder WW, Feelders RA, Hofland J. Neuroendocrine tumors and disorders. In: Melmed S, Auchus RJ, Goldfine AB, Rosen CJ, Kopp PA, eds. *Williams Textbook of Endocrinology*. 15th ed. Philadelphia, PA: Elsevier; 2025:chap 43.

Gan T, Evers BM. Small intestine. In: Townsend Jr CM, Beauchamp RD, Evers BM, Mattox KL, eds. *Sabiston Textbook of Surgery*. 21st ed. St. Louis, MO: Elsevier; 2022:chap 50.

National Cancer Institute website. Gastrointestinal neuroendocrine tumors treatment (PDQ) - health professional version. www.cancer.gov/types/gi-neuroendocrine-tumors/hp/gi-neuroendocrine-treatment-pdq [https://www.cancer.gov/types/gi-neuroendocrine-tumors/hp/gi-neuroendocrine-treatment-pdq]. Updated September 19, 2024. Accessed February 24, 2025.

Wolin EM, Jensen RT. Neuroendocrine neoplasms. In: Goldman L, Cooney KA, eds. *Goldman-Cecil Medicine*. 27th ed. Philadelphia, PA: Elsevier; 2024:chap 213.

Review Date 7/29/2024

Updated by: Warren Brenner, MD, Oncologist, Lynn Cancer Institute, Boca Raton, FL. Review provided by VeriMed Healthcare Network. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team. Editorial update 02/24/2025.