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Carcinoid Tumor - Diagnosis [1]

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ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what's wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose a tumor and find out if it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most types of tumors, a biopsy is the only way to make a definitive diagnosis of cancer. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the cancer has spread.

This list describes options for diagnosing a carcinoid tumor, and not all tests listed will be used for every person. Your doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of tumor suspected
- Signs and symptoms
- Previous test results

Most carcinoid tumors are found unexpectedly when people have x-rays or medical procedures

done for reasons unrelated to the tumor. For example, many carcinoid tumors of the appendix are found during surgery to remove the appendix, called an appendectomy. Carcinoid tumors in the stomach and duodenum, the top of the small intestine, are usually found during an endoscopy (see below).

If a doctor suspects a carcinoid tumor, he or she will ask for a complete medical and family history and perform a thorough physical examination. In addition, the following tests may be used to diagnose a carcinoid tumor:

- **Blood/urine tests.** The doctor may need samples of your blood and urine to check for abnormal levels of hormones and other substances. Urine tests check the amount of 5-HIAA (see the Overview [3]). Measurements of serotonin levels may also be taken. A doctor may be able to diagnose a carcinoid tumor from a urine test alone. A blood test to measure chromogranin-A may be needed since the serum serotonin level often changes and may not be as useful as a chromogranin-A test.

- **Biopsy [4].** A biopsy is the removal of a small amount of tissue for examination under a microscope. A pathologist then analyzes the sample(s) removed during the biopsy. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

- **Molecular testing of the tumor.** Your doctor may recommend running laboratory tests on a tumor sample to identify specific genes, proteins, and other factors unique to the tumor. Results of these tests will help decide whether your treatment options include a type of treatment called targeted therapy (see the Treatment Options [5] section).

- **Endoscopy [6].** This test allows the doctor to see the lining of the upper digestive system with a thin, lighted, flexible tube called an endoscope. The person may be sedated as the tube is inserted through the mouth, down the esophagus, and into the stomach and small bowel. Sedation is giving medication to become more relaxed, calm, or sleepy. If an abnormality is found, a biopsy will be performed.

  A colonoscope [7] is a type of endoscope that is inserted through the anus and into the colon. It can be used to diagnose a tumor in the lower section of the digestive tract.

- **Endoscopic ultrasound [8].** An ultrasound uses sound waves to create a picture of internal organs. This procedure is often done at the same time as an upper endoscopy. During an endoscopic ultrasound, a machine that produces the sound waves, called a transducer, is inserted into the upper digestive tract through the mouth. The endoscopic ultrasound can show enlarged lymph nodes, which may help the doctor find a tumor or

figure out the stage [9] of the disease.

- **Bone scan [10].** A bone scan uses a radioactive tracer to look at the inside the bones. The tracer is injected into a patient's vein. It collects in areas of the bone and is detected by a special camera. Healthy bone appears gray to the camera, and areas of injury, such as those caused by cancer, appear dark.

- **X-ray.** An x-ray is a way to create a picture of the structures inside the body. For instance, a chest x-ray may be taken to look for a carcinoid tumor in the lungs. Sometimes, a carcinoid tumor may not show up on a chest x-ray because of its size or location so the doctor may also recommend other types of scans.

- **Barium x-rays.** During a barium swallow, a person swallows a liquid containing barium, which coats the lining of the esophagus, stomach, and intestines. Then a series of x-rays are taken. The barium makes abnormalities easier to see on the x-ray. If there is an abnormality, an endoscopic biopsy can help make a diagnosis of cancer.

  A barium enema [11] may be given before x-rays are taken to show the inner surface of the large intestine. During this test, a barium solution is given through the anus and flows throughout the colon, and then the x-rays are taken.

- **Computed tomography (CT) scan [12].** A CT scan creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. A CT scan can also be used to measure the tumor's size. Additionally, a CT scan is used to see if the tumor has spread to the liver and to detect a carcinoid tumor in the retroperitoneal (the area behind the abdomen) lymph nodes. Sometimes, a special dye called a contrast medium is given before the scan to provide better detail on the image. This dye can be injected into a patient's vein or given as a liquid to swallow.

- **Magnetic resonance imaging (MRI) [13].** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. MRI can also be used to measure the tumor's size. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a patient's vein or given as a liquid to swallow.

- **Radionuclide scanning (OctreoScan).** During this test, a small amount of a radioactive hormone-like substance that is attracted to carcinoid tumors is injected into a patient's vein. A special camera is then used to show where the radioactivity has built up in the body. This procedure is useful for identifying where a carcinoid tumor has spread, especially if it has spread to the liver.

- **Positron emission tomography (PET) scan [14].** A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive sugar substance is injected into the patient's body. This sugar substance is taken up by cells that use the most energy. Because cancer tends to use energy actively, it absorbs more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body. However, because a carcinoid tumor usually grows very slowly, a PET scan may not be as helpful as other tests for diagnosis.

After diagnostic tests are done, your doctor will review all of the results with you. If the diagnosis is cancer, these results also help the doctor describe the tumor; this is called staging.

The next section in this guide is Stages [9], and it explains the system doctors use to describe the extent of the disease. Or, use the menu on the side of your screen to choose another section to continue reading this guide.

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