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Parathyroid Cancer - Diagnosis [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 11/2013

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, find out if it is cancerous, and if so, determine whether it has metastasized (spread). Some tests may also determine which treatments may be the most effective. For most types of tumors, a biopsy (the removal of a small amount of tissue for examination under a microscope) 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 a cancerous tumor has spread. This list describes options for diagnosing this type of 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

In addition to a physical examination, the following tests may be used to diagnose a parathyroid tumor:

Blood/urine tests. Many types of blood or urine tests may be done. The most common test is a serum calcium test. Elevated serum calcium levels can indicate the presence of a parathyroid tumor or hyperplasia (over-active cells) on one or more glands. Another common laboratory test looks for elevated levels of the parathyroid hormone (PTH) and phosphorus levels in the blood. Doctors may suspect parathyroid cancer if these blood tests find a very high level of calcium and/or PTH.

Sestamibi/SPECT scan. SPECT stands for single proton emission computerized tomography. A sestamibi/SPECT scan is a procedure in which a specific protein, called sestamibi, is mixed with a radioactive material and injected into the patient?s vein. A parathyroid tumor will absorb the material, and the tumor will be visible on an x-ray of the neck. A sestamibi/SPECT scan may be recommended if laboratory tests show an elevated level of PTH, or it may be used to evaluate parathyroid cancer that has spread to distant parts of the body (metastatic) or come back after

treatment (recurrent). See the Stages [3] section for a full description of these stages.

Ultrasound [4]**.** An ultrasound uses sound waves to create a picture of the internal organs. An ultrasound is very useful for locating a tumor in or around the thyroid gland. However, it has limitations if the tumor is located lower in the neck or upper chest.

Computed tomography (CT or CAT) scan [5]**.** 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. Sometimes, a contrast medium (a special dye) is injected into a patient?s vein or given orally (by mouth) to provide better detail. The three-dimensional CT scan for parathyroid tumor localization is a ?timed infusion? of contrast and, when combined with a sestamibi/SPECT scan (see above), is considered the ?gold standard? in parathyroid imaging today.

Magnetic resonance imaging (MRI) [6]**.** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A contrast medium may be injected into a patient?s vein or given orally to create a clearer picture.

Surgery. [7] Removing the entire tumor during an operation is the most common way to diagnose both benign and malignant parathyroid tumors. The tumor is then analyzed by a pathologist (a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease). Rarely a biopsy [8] may be done separately before surgery. In these cases, the doctor usually performs a fine needle aspiration, which removes a sample of fluid and cells from the tumor with a very thin, hollow needle.

After these 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 [3] .

The next section helps explain the different stages for this type of cancer. Use the menu on the side of your screen to select Stages, or you can select another section, to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/parathyroid-cancer/diagnosis
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/19514
[4] http://www.cancer.net/node/24714
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