Gastrointestinal Stromal Tumor - GIST - Diagnosis

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Diagnosis

Doctors use many tests to diagnose a tumor and find out if it is cancerous and, if so, if it has metastasized (spread). 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. 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 metastasized. Your doctor may consider these factors when choosing a diagnostic test:

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

In addition to a physical examination, the following tests may be used to diagnose GIST or determine the best treatment: **[2]**

Computed tomography (CT or CAT) scan [3]. 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. Sometimes, a contrast medium (a special dye) is injected into a vein to provide better detail. For patients with GIST, the CT scan is the most commonly used way to diagnose the disease. A CT scan can help doctors determine whether the cancer has spread to the liver.

Fecal occult blood test [4]. This test detects occult (hidden) blood in the stool, which can be caused by cancer in the GI tract. A small amount of stool is placed on a plastic slide or special paper and is tested in the doctor's office or a laboratory.

X-ray. An x-ray is a way to create a picture of the structures inside of the body, using a small amount of radiation. X-rays may be taken of the esophagus and stomach, which are referred to as the upper GI tract. This procedure is also called a barium swallow, because the x-rays are taken after a patient drinks a substance called barium, which outlines the GI tract on the x-ray and helps the doctor see a tumor or other abnormal areas. In a barium enema [5], the doctor looks at the lining of the colon and rectum on the x-ray after the barium is given through the anus.

Endoscopy [6]. This test allows the doctor to see the inside of the stomach. The patient may be sedated, and the doctor inserts a thin, lighted tube called a gastroscope through the mouth, down the esophagus, and into the stomach and small bowel. If abnormal areas are found, the doctor can remove a sample of tissue and check it for evidence of cancer (see Biopsy, below).

Endoscopic ultrasound. This test is similar to an endoscopy, but the gastroscope has a small ultrasound probe on the end that uses sound waves to create an image of the stomach and nearby organs. The ultrasound image helps doctors determine if or how far the cancer has spread into the stomach and nearby tissues.

Magnetic resonance imaging (MRI) [7]. 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 to create a clearer picture.

Positron emission tomography (PET) scan [8]. A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive substance is injected into a patient?s body. This substance is absorbed mainly by organs and tissues 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. PET scans are often used to add to the information from the CT scan, MRI, and physical examination, and may be used to show early growth of the disease (called PET flare), or to measure how well treatment is working.

Biopsy [9]. It is very important that a patient is seen by a team of medical and surgical oncologists experienced in the treatment of GIST before a big surgery is performed. A biopsy may be recommended if a mass suspected of being GIST is found. A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that cancer is present, but only a biopsy can make a diagnosis. The sample removed from the biopsy is analyzed by a pathologist (a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease). The type of biopsy performed will depend on the location of the tumor. Sometimes, surgery is recommended even if the biopsy results do not indicate cancer, as a biopsy for GIST is not always definitive. In some instances, an entire tissue mass or an organ will be

removed to make a diagnosis.

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. Recent studies have shown that depending on the tumor?s specific gene mutations, some patients may need higher doses of a medicine called imatinib (Gleevec) to best control the tumor. Currently this testing is being offered within and outside of clinical trials (research studies). Also, because knowing the exact type of gene mutation in GIST helps determine how well treatment with imatinib will work, testing each patient for genetic mutations can help doctors target the specific mutation causing the tumor to grow (see Treatment [10]).

Learn more about what to expect when having common tests, procedures, and scans [11].

After these diagnostic tests are done, your doctor will review all of the results with you. If the diagnosis is GIST, these results also help the doctor describe the tumor; this is called staging [12]. Learn more about the first steps to take after a diagnosis [13].

Links:
[1] http://www.cancer.net/about-us
[2] http://www.cancer.net/all-about-cancer/cancernet-feature-articles/treatments-tests-and-procedures/computed-tomography-ct-scan-what-expect
[3] http://www.cancer.net/node/24486
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