Testicular Cancer

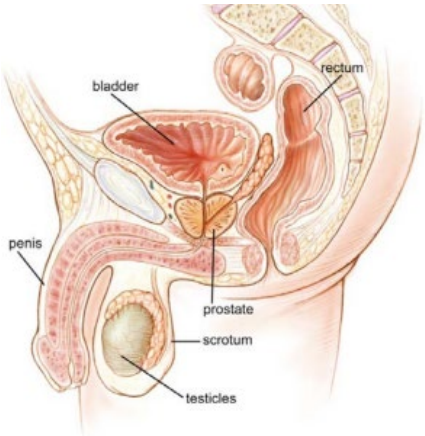
The Testicles

The testicles are the male sex glands and are slightly smaller than a golf ball. See image below. They are located behind the penis in a pouch of skin called the scrotum. The testicles produce male hormones and produce and store sperm.

About Cancer

Cancer can develop anywhere in the body. It starts when cells grow out of control and crowd out normal cells.

The cells that keep dividing form a mass of extra tissue, called a growth or tumor. Tumors can be benign or malignant.



The testicles and surrounding organs
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- Benign tumors are not cancer and can often be removed. In most cases, they do not come back. Benign tumors are rarely a threat to life.
- Malignant tumors are cancer. Cancer cells are abnormal and divide without control or order. These cells can invade and destroy the tissues around them. Cancer cells can break away from a malignant tumor and enter the bloodstream or the lymphatic system. This process is the way cancer spreads from the original (primary) tumor to form new tumors in other parts of the body.

Testicular Cancer

Testicular cancer is a disease in which cancer cells form in the tissue of one or both testicles. The testicles contain several types of cells, each of which may develop into one or more types of cancer. It is important to understand the different types of testicular cancer because they differ in their prognosis and in the way they are treated.

Germ cell tumors account for 95% of testicular cancers. If detected early, testicular cancer is highly treatable and usually curable. Testicular cancer is the most common cancer in males between the ages of 15 and 35.

Risk Factors

Risk factors are things that increase a person's chance of developing a disease. For example, cigarette smoking is a risk factor of lung cancer and being overweight is a risk factor of heart disease.

Risk factors for testicular cancer include:

- Cryptorchidism – A condition in which one or both testicles fail to move from the abdomen
- (belly) into the scrotal sac. This is one of the main risk factors.
- Family history of testicular cancer

- HIV infection
- Previous history of testicular cancer
- Age – About half of testicular cancers occur in males between the ages of 15 and 35, but testicular cancer can affect males of any age.

Survival Rate

- The survival rate for testicular cancer is almost 100% if caught in the early stages. If diagnosed in a late stage, the cure rate is closer to 80%.
- The five-year relative survival rate for all men with testicular cancer is 95% for white men and 89.5% for Black men.

Signs and Symptoms

- The first sign is a change of size in one of the testicles.
- The first symptom is usually a painless lump, swelling or hardening in one of the testicles.
- This is usually found by accident by the patient or by his sexual partner.
- Sometimes the patient may complain of a dull ache or heavy sensation in the lower abdomen or perianal area (the area between the rectum and underside of the scrotum).

Metastasis

Metastasis means the cancer has spread to a different part of the body from where it started.
Symptoms of metastasis may include:

- A mass or lump in the neck
- Cough or shortness of breath
- Nausea, vomiting and loss of appetite
- Swelling in the lower legs

Diagnosis

The following tests or exams are used to diagnosis testicular cancer.

- Physical exam – The doctor feels for an abnormal lump on the testicle or in the scrotal sac.
- Ultrasound of the scrotum – This scan can determine if the mass is inside or outside the testicle.
- Computerized tomography (CT) – A scan that can detect spread of the cancer to other parts of the body.
- Tumor markers play a large role in diagnosis, staging and treatment planning. Tumor markers include:
    - Alpha feta protein (AFP)
    - Lactate dehydrogenase (LDH)
    - Beta human gonadotropin (b-HCG)

Treatment Options

Your doctor will recommend a treatment based on the type of testicular cancer you have, as well as the stage of the cancer. Some treatments are standard, which are the currently used treatments, and some are being tested in clinical trials.

Clinical Trials

A treatment clinical trial is a research study meant to help improve current treatments or obtain information on new treatments. When clinical trials show that a new treatment is better than the standard treatment, the new treatment may become the standard treatment. Ask your doctor if a clinical trial is available for your type of cancer.

Types of Standard Treatment

Surgery

The surgery to remove the testicle and some of the lymph nodes is called a radical inguinal orchiectomy. This is the standard and first treatment. If surgery to remove the testicle is your best treatment option, your doctor will discuss the procedure with you. If you plan to have children in the future, talk with your doctor about sperm banking before the surgery.

Chemotherapy

Chemotherapy (chemo) is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. Chemo is the preferred treatment for patients whose cancer has spread.

In some cases, patients receive chemo after surgery to kill any cancer cells that are left. Adjuvant therapy is the term for treatment given after surgery to increase the chances of a cure.

Radiation Treatment

Radiation treatment uses high-energy x-rays or other types of radiation to kill cancer cells or keep them from growing. There are two types of radiation. External radiation therapy uses a machine outside the body to send radiation toward the cancer. Internal radiation therapy uses a radioactive substance sealed in needles, seeds, wires or catheters that are placed directly into or near the cancer. The way the radiation is given depends on the type and stage of the cancer. Radiation is most often given after surgery.

Active Surveillance

Doctors monitor you closely for any recurrence of cancer after completing surgery or other treatments. Active surveillance includes:

- A physical exam
- Measuring levels of tumor markers AFP and b-HCG
- Abdominal and pelvic CT scans every 3 to 4 months for the first 2 years, every 6 to 12 months in year 3 and 4, and annually thereafter.

Choosing the most appropriate treatment is a decision that ideally involves the patient, family and care team.

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