Rhabdomyosarcoma

Rhabdomyosarcoma is a type of a sarcoma, which means a cancer of the bone, soft tissues, or connective tissue. This cancer can occur anywhere in the body but is most often found in the head and neck region, followed by the organs associated with reproduction and urination, and the arms or legs.

More than 90 percent of rhabdomyosarcomas are diagnosed in people under 25 years old; about 60 percent of these cases are diagnosed in children under the age of 10. In the United States, rhabdomyosarcoma strikes approximately five in every one million children each year.

The cause of rhabdomyosarcoma is unknown. Some children with certain birth defects are at increased risk, and some families have a gene mutation that elevates risk. However, the vast majority of children with rhabdomyosarcoma do not have any known risk factors.

Rhabdomyosarcoma Symptoms Depend on Where the Tumor Develops:

The otolaryngologist—head and neck surgeon is the medical specialist that will identify the symptoms of this cancer in the head and neck region. Specifically, when rhabdomyosarcoma affects the eye or eyelid, the result can be a bulging eye, a swollen eyelid or paralysis of the eye muscles. In the sinuses, rhabdomyosarcoma can cause a stuffy nose, and sometimes a nasal discharge that contains pus or blood. In other locations in the head and neck, the most common symptom of a rhabdomyosarcoma near the surface is a painless lump or swelling that gradually gets larger.

When rhabdomyosarcomas develops in the urogenital tract, the consequence can be tumors causing difficulty in urination, blood in the urine, constipation, a lump or mass inside the vagina, vaginal discharge that contains blood and mucus, or a painless enlargement of one side of the scrotum. Rhabdomyosarcoma appears as a lump or swelling, with or without pain, tenderness and redness. In physically active children, the swelling is sometimes mistaken for an injury related to sports or childhood play.

Call your doctor promptly if your child develops any of these symptoms.

What to Expect When you See the Doctor:

After reviewing your child's symptoms, your doctor will examine your child. Depending on the results of this exam, your doctor may order a regular X-ray as the first test. Computed tomography (CT) scans and magnetic resonance imaging (MRI) might also be needed. If a tumor is found on any of these tests, a small piece of tissue is removed and examined in a laboratory (biopsy).

If the lab tests show signs of a cancerous tumor, your doctor will refer you to a medical center that has the facilities, personnel, and experience to treat childhood cancer. There your child will have more tests to check whether the cancer has spread to the lungs, bones, or elsewhere.

Diagnosis

Once childhood rhabdomyosarcoma is found, more tests will be done to find out if the cancer cells have spread to other parts of the body. This is called staging. Your doctor needs to know how far the cancer has spread to plan treatment.

Treatments:

A rhabdomyosarcoma will continue to grow until it is treated. Without proper treatment, this cancer eventually may spread to the lungs, bone marrow, bones, or lymph nodes. There are treatments for all patients with childhood rhabdomyosarcoma. Three types of treatment are used, most often in combination with each other:

- Surgery

- Chemotherapy (using drugs to kill cancer cells)

- Radiation therapy (using highenergy X-rays or other high-energy rays to kill cancer cells)

Prognosis:

More than 70 percent of children with localized rhabdomyosarcoma enjoy long-term survival. Survival rates depend on initial tumor size, location, appearance under the microscope, how much of the tumor can be removed with surgery, and whether the disease has spread to other parts of the body.

Sources:

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St. Jude Children’s Research Hospital American Cancer Society

National Cancer Institute