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Sarcoma

Sarcomas are cancers of connective tissue. They fall into groups based on whether they arise in soft tissue or bone.

- Soft tissue sarcomas can originate from muscle, fat cells, nerves, fibrous connective tissue, tendons, lymph vessels, or blood vessels. However, in many cases, the cell of origin is unknown. Soft tissue sarcomas most frequently begin in the arms or the legs but can occur anywhere in the body.
- Sarcomas are more prevalent in children than adults. The most common types of non-soft tissue sarcomas are osteosarcoma, chondrosarcoma, and Ewing sarcoma. Osteosarcoma, a bone cancer that destroys tissue, is often found in the bones around the knee. Ewing sarcoma most often occurs in the bones of the legs, arms, feet, hands, chest, pelvis, spine, or skull, but can also be present in soft tissue.
- Common types of soft-tissue sarcomas include undifferentiated pleomorphic sarcoma (previously called malignant fibrous histiocytoma), liposarcoma, and leiomyosarcoma. Undifferentiated pleomorphic sarcomas and liposarcomas are often found in the legs, while leiomyosarcomas are usually found in the abdomen.

These tumors are different from other "cancers of the bone" such as breast cancer, which spreads to bone, or multiple myeloma, which arises from blood cells in the bone marrow.

Statistics

- Sarcomas account for about **1%** of adult cancers and about **15%** of childhood cancers.
- In the U.S., about **13,400 new cases of soft tissue sarcoma** are expected to be diagnosed in 2023, with approximately **5,140 deaths.**
- Approximately **3,970 new cases of bone and joint cancer** are expected to be diagnosed in the U.S. in 2023, with an estimated **2,140 deaths.**

Risk Factors

There are no known reasons for developing sarcomas, but certain risk factors have been identified based on common characteristics in individuals who developed the disease, including:

- History of high doses of radiation exposure from treatments for other cancers; however, radiation treatment techniques have improved to ensure the targeted area is treated more precisely so effects on surrounding tissues and organs are minimized.
- Individuals exposed to herbicides with high doses of phenoxyacetic acid and wood preservatives with chlorophenols have a higher risk.
- Individuals with certain inherited diseases, including Li-Fraumeni syndrome, retinoblastoma, Paget's disease of bone, multiple exostoses syndrome, Gardner syndrome, Werner syndrome, Gorlin syndrome, von Recklinghausen disease (neurofibromatosis), or tuberous sclerosis have an increased risk of developing a soft tissue or bone sarcoma.
- Damage to a person's lymph system, which can occur through surgery or radiation therapy, is also a risk factor associated with soft tissue sarcoma.

Signs and Symptoms

In the early stages, it can be difficult to determine if a sarcoma is present, and sarcoma may go undetected for a long period of time. Symptoms such as bone pain, suspicious lumps, or swollen areas of the body should be evaluated by a physician, who may conduct a biopsy If a lump is present to determine if it is a malignant tumor or benign. Over time, tumors can grow, become sore, and eventually cause pain, bone fracturing, swelling, numbness, tingling, or weakness as the tumor presses against nerves or muscles.

Tips for Prevention

There are no known ways to prevent the development of a bone or soft tissue sarcoma. Maintaining a healthy lifestyle and getting regular check-ups are the best ways to reduce the risk for developing all forms of cancer.

Treatment Options

Once a sarcoma is diagnosed, the treatment plan will be based on type, location, and stage of the cancer, as well as the patient's overall health and individual goals. Surgery may be an option, depending on the cancer's location and stage. For soft tissue sarcoma, tissue is sometimes removed even if the disease has spread to other areas. Chemotherapy or radiation therapy may be used to shrink the tumor before surgery. Following surgery, patients may receive radiation therapy or chemotherapy to improve the chances of eliminating all tumor cells. Proton therapy, targeted therapy, immunotherapy, and palliative medicine may also be treatment options. Patients with sarcoma are usually treated by a multidisciplinary team including surgical oncology or orthopedic oncology, medical oncology, radiation oncology and palliative care. Enrollment into clinical trials may also be considered.

About Texas Oncology

With more than 530 physicians and 280 locations, Texas Oncology is an independent private practice that sees more than 71,000 new cancer patients each year. Founded in 1986, Texas Oncology provides comprehensive, multi-disciplinary care, and includes Texas Center for Proton Therapy, Texas Breast Specialists, Texas Colon & Rectal Specialists, Texas Oncology Surgical Specialists, Texas Urology Specialists, Texas Infusion and Imaging Center, and Texas Center for Interventional Surgery. Texas Oncology's robust community-based clinical trials and research program has contributed to the development of more than 100 FDA-approved cancer therapies. Learn more at www.TexasOncology.com.

Sources: American Cancer Society, American Society of Clinical Oncology, National Cancer Institute, National Library of Medicine, and Sarcoma Foundation of America

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