Osteosarcoma

Osteosarcoma is the second most common primary malignant tumor of the bone, and usually presents in boys between the ages of 10-20. There are several risk factors which contribute to disease development, including patients with a history of Paget's disease, history of bone infarcts, radiation exposure and familial retinoblastoma history. The cancer classically presents in the knee and in the metaphysis of the bone. The appearance of the cancer is described as a sunburst appearance, due to elevation of the periosteum. This disease carries a grave prognosis.



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Pathophysiology

Osteogenic Sarcoma
Ostrich-wearing-jeans
Osteogenic sarcoma is the alternative name.

Peak incidence men 10-20 years old
10-20 Male Sex-symbol
This disease most often occurs in males 10-20 years old.

Metaphysis of Long Bones
Metal-fist on Metaphysis
This tumor is classically found in the metaphysis of long bones. This region is responsible for the growth and expansion of long bones.

Knee Region
Large knees
This tumor is most often found in the knee.

Radiation
Radiation-radio
Radiation is a risk factor for developing this cancer.

Familial Retinoblastoma
Family-portrait Red-tin-blast
Familial retinoblastoma is caused by an abnormality in the tumor suppressor gene RB1, which subsequently leads to a predisposition for the development of multiple malignancies, including osteosarcoma.

Paget's Disease
Pageant-sash
Paget's disease is a skeletal disease in which patients have a net gain in bone mass. It is a risk factor for developing osteosarcoma. This usually occurs in older patients, as opposed to the normal epidemiologic age group of osteogenic sarcoma.

Diagnosis

Codman Triangle
Cod-fish Triangle
Codman triangle is the description of the elevation of the periosteum caused by the cancer growth seen on imaging. The growth creates a triangular area.

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Sunburst Pattern from Elevated Periosteum

Sunburst on Window-sill of Elevated Periosteum

The elevated periosteum is also classically described as a sunburst pattern on imaging, which can help with identification.

Grave Prognosis

Gravestone

The cancer is malignant and has a poor prognosis.

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