



OPZ250 Mesleki Yabancı Dil I

2.hafta

Medical terminology & Cancer: Bone/Limb



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Medical Terminology



Cancer: Bone/Limb

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Description

Long bone tumors of the pediatric patient resulting in varying levels of disability depending on their location and the necessary treatment.

Etiology/Types

- _Osteosarcoma
- _Ewing sarcoma

Epidemiology 5

■ Osteosarcoma

- 5.6 cases per million children
- Typically affects children in 2nd decade
- Most commonly seen in the femur, tibia, and humerus (can be found in the skull, jaw, or pelvis)

■ Ewing sarcoma

- 2.1 cases per million children
- Typically children between 5 and 25 years of age
- Predominantly affects teenage boys

Pathogenesis

- Aggressive tumors that metastasize quickly (to lungs and bone)
- ~25% of patients have metastases at presentation
- 90% of osteosarcomas involve the metaphysis

Risk Factors

■ Osteosarcoma

- Rapid bone growth
- History of retinoblastoma
- Ionizing radiation exposure
- Genetic risk factors
- ■ Ewing sarcoma
- Rapid bone growth
- Caucasian race

Clinical Features

- _Pain and swelling
- _Mass is almost always present initially in Ewing's and 40% of the time with Osteosarcoma
- _± Pathologic fracture

Natural History

- _If untreated, rapid progression to death

Diagnosis

Differential diagnosis

- _Osteomyelitis
- _Benign bone tumors of children
- _Rhabdomyosarcoma
- _Giant cell tumor
- _Nonrhabdomyosarcoma soft tissue sarcoma
- _Fibrosarcoma
- _Chondrosarcoma

History

- _Pain/swelling/mass
- _Often at presentation patient incidentally reports a history of trauma
- _Fever
- _Weight loss

Pitfalls

- _Delay in diagnosis means decrease in survival rate
- _Biopsy must be performed by a qualified orthopedic oncologist

Treatment

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- _Chemotherapy
- _Radiation therapy in limited cases of Ewing's
- _Oral medications for pain

Exercises

- _Early mobilization with range of motion
- _General conditioning exercises for fatigue as tolerated
- _Strength and balance activities
- _Gait retraining after limb surgery
- _Upper extremity strengthening and modified activities of daily living
- _Limb salvage patients are restricted from high impact and high coordination sports
- _Modified physical education classes

Prosthetics and Orthotics

- _Prosthesis if amputation performed
- _Orthoses for weak limb support
- Consider orthotic support of the knee
- Consider shoe lifts as needed for leg length discrepancies
- ■ _Desensitization of residual limb

Surgical

- _Osteosarcomas need total resection of primary tumor and metastases
- _Surgical resection of Ewing sarcoma is preferable to radiation (due to high risk of second cancers after radiation exposure)
- _Limb salvage (surgery to remove cancer and avoid amputation, while maintaining maximal function) is often considered to produce a cosmetically superior result
- _Amputation if patient at high risk for recurrence
- _Surgical resection of metastases is necessary

Consults

- _Oncology
- _Orthopedic oncologist
- _Prosthetist /Orthotist
- _Psychology and Social Work
- _Peer mentor

Complications of treatment

- _Infection
- _Neurovascular injury
- _Limb length discrepancy/slowed growth
- _Tumor bed contamination/second neoplasm
- _Ototoxicity, liver, renal, or cardiac toxicity, and sterility from chemotherapy
- _Osteonecrosis

Prognosis

- _Osteosarcoma 3- to 5-year survival rate
 - Without metastases is ~ 58% to 76%
 - With metastases is ~ 14% to 50%
- _Ewing sarcoma 3- to 5-year survival rate
 - Without metastases is ~ 50% to 70%
 - With metastases is ~ 19% to 30%

- _Axial and pelvic lesions carry a poorer prognosis