Osteosarcoma is the most common primary malignant lesion of the bone. Incidence of this bone tumour is approximately 5/1000.000 and commonly seen during the second decade. Although the survival rate is increasing secondary to the improvement of the chemotherapeutics, still it is around 65%.

The main symptoms of this disease are progressive pain, swelling of the extremity and also feeling the mass of the bone. The main approach is having imaging and lab tests. In classical X-rays, blastic or destructive bone lesions accompanying to periosteal reaction are characteristics for osteosarcoma. MRI is important for detecting the soft tissue involvement, neurovascular invasion and searching of the skip lesions. Bone scan and chest CT imaging is applied for evaluating the pulmonary and bone metastases. Elevated alkaline phosphatase levels are also characteristic for osteosarcoma patients.

The diagnosis of course made by histology. “Lacey osteoid” showing malignant characteristics with atypia, high nuclear to cytoplasmic ratio and abnormal mitotic figures are seen in histological specimens.

The treatment of osteosarcoma is preoperative chemotherapy - surgical resection followed by maintenance chemotherapy. Cisplatine-Ifosfamide -Adriamycin combination is given to the patients for the chemotherapy.

Surgical treatment methods should consist “wide surgical resection” rules. Mainly endoprosthetic replacements, biologic reconstructions and sometimes amputations are the surgical treatment methods.

For the follow up period, chest x ray or CT and physical examination four times a year for the first 2 years, then same methods two times a year for the next 2 years period. For the next five years, annual chest imaging and physical examinations are planned.

Reconstruction of this lesions is also important for the patients as they are commonly young. In the past, the surgical treatment method was commonly amputation. Improvements in radiological modalities, prosthetic technology and chemotherapeutics changed the treatment strategy to reconstruction of the extremities. Advances in histopathological and genetics make molecular biology studies even more popular. In recent years, molecular studies offer new developments both in histopathological examinations and in the field of targeted chemotherapy.