ISSN: 2157-2518
Journal of Carcinogenesis & Mutagenesis

OPEN ACCESS Freely available online

Commentary

Treatment and Protocols for Osteogenic Sarcomas

Qian Ma*

Department of Oncology, Aarhus University Hospital, Aarhus, Denmark

DESCRIPTION

The most frequent primary bone cancer in children and teenagers, osteosarcoma is distinguished by the formation of immature bone. Some cases could be linked to certain syndromes, including the ones listed below:

- Retinoblastoma that is inherited
- Syndrome of Li-Fraumeni
- Syndrome Rothmund-Thomson
- Syndrome of Werner and Bloom

Osteosarcomas in adults are frequently regarded as secondary neoplasms and are brought on by one of the following:

- Irradiation
- Paget illness that progresses to sarcoma
- a fractured bone
- Benign bone lesions changing.

Patients often present with bone pain that has been present for weeks to months as well as the growth of an expansile mass that is palpably painful. Alkaline phosphatase, Lactate Dehydrogenase (LDH), and erythrocyte sedimentation rate are typically elevated in laboratory analysis. Even if a very high LDH level is connected to a poor clinical outcome, those values do not correlate with the severity of the disease.

The usual trabecular bone pattern is destroyed, the cortex is destroyed, periosteal new bone is formed, and a Codman triangle forms on plain radiographs. The borders are also ambiguous and have a mixture of radiodense and radiolucent areas. A biopsy is necessary for a certain diagnosis, which reveals malignant sarcomatous stroma with osteoid.

The staging workup should include technetium radionuclide bone scanning, Computed Tomography (CT) of the chest, and magnetic resonance imaging of the whole length of the affected bone. In some cases, Positron Emission Tomography (PET) or a PET/CT scan may be recommended.

Chemotherapy has significantly increased these individuals' chances of survival. Before chemotherapy, the majority of patients experienced metastases following surgery.

The following treatment guidelines for osteogenic sarcoma include general and first-line treatment suggestions as well as suggestions for second-line therapy for relapsed or resistant illness.

General medical care

The following is a collection of general therapy suggestions for people with osteosarcoma.

Levels IA through IB:

- Only broad excision is used as the primary treatment for patients with low-grade osteogenic sarcoma.
- Chemotherapy is not often advised, either before or after surgery for excision.
- One exception is periosteal lesions, where surgical adjuvant chemotherapy may be necessary.

IIA-IVB (high grade) stages:

- All phases of high-grade osteogenic sarcoma call require chemotherapy.
- Neoadjuvant chemotherapy (two to three cycles) and adjuvant chemotherapy (three to four cycles) are commonly administered for nonmetastatic osteosarcoma (adjuvant).

First-line treatment

- Metastatic disease: Primary, neoadjuvant, or adjuvant therapy
- Neoadjuvant doxorubicin and cisplatin or High-dose methotrexate, doxorubicin (Adriamycin), and cisplatin (MAP) or MAP+ifosfamide (MAP-I) or Ifosfamide, cisplatin, and epirubicin (ICE):
- On days 1 through 3, provide a 75 mg/m^2 IV bolus of doxorubicin at a dose of 25 mg/m^2.
- Day 1: Continuous 24-hour IV infusion of 100 mg/m2 cisplatin

Correspondence to: Qian Ma, Department of Oncology, Aarhus University Hospital, Aarhus, Denmark, E-mail: Qian@ma.de

Received: 25-Nov-2022, Manuscript No. JCM-23-19541; **Editor assigned:** 28-Nov-2022, Pre QC No. JCM-23-19541; **Reviewed:** 12-Dec-2022, QC No. JCM-23-19541; **Revised:** 19-Dec-2022, Manuscript No. JCM-23-19541; **Published:** 26-Dec-2022, DOI: 10.35248/2157-2518.22.S35.002

Citation: Ma Q (2022) Treatment and Protocols for Osteogenic Sarcomas. J Carcinog Mutagen. S35:002

Protocols consist of the following:

- Adjuvant cisplatin and doxorubicin (same dosage and period of treatment), starting 14 to 28 days after surgery, and three 21-day cycles after final surgery on week 9.
- Three 14-day cycles, definitive surgery between cycles three and four, adjuvant cisplatin and doxorubicin, and finally three 14-day cycles.

Supportive treatment is as follows:

- Days 22 through 26: Mesna 3000 mg/m^2/day IV continuous 120-hour infusion administered with ifosfamide (total dose: 15,000 mg/m^2)
- Leucovorin 15 mg IV or PO Q6H×10 doses, beginning on day 36 and beginning 24 hours following the start of the MTX infusion
- Second-line therapy for relapsed or refractory disease

Relapses are possible in patients with locally advanced and metastatic osteosarcoma. Any one of the following regimens is advised as treatment for patients with relapsed or refractory disease:

- Gemcitabine with docetaxel
- Etoposide and cyclophosphamide
- Topotecan with cyclophosphamide
- Gemcitabine
- High-dose ifosfamide plus/minus etoposide
- Carboplatin, etoposide, and ifosfamide
- ifosfamide, etoposide, and high-dose methotrexate
- Beyond second line therapy, samarium-153-ethylene diamine tetramethylene phosphonate is used for relapsed or refractory illness.
- Sorafenib
- Everolimus with sorafenib,
- Ra223