Prognostic factors and late effects of treatment in localised high grade extremity osteosarcoma
Bramer, J.A.M.

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Chapter 9

Recommendations
9.1 Recommendations for clinical practice

1. More effort should be taken to estimate survival chance for each individual patient. Treatment strategy should balance survival chance, investment by the patient (treatment related morbidity and rehabilitation), and late effects of treatment.

2. Special attention should be given to the surgical procedures of resection and reconstruction; adverse late effects are predominantly caused by the results of surgery.

3. Prognostication should be done more extensively after chemotherapy, but before surgery. Estimation of survival chance and chemotherapy response should be given a more important role in the planning of surgery.

4. Estimation of chemotherapy response after chemotherapy, but before surgery, should be done routinely by Colour Doppler Ultrasound or by dynamic MRI scanning. CDUS is more easily available and more patient friendly, and is therefore preferable, depending on the clinical setting.

5. In adults, serum alkaline phosphatase should be routinely assessed before, and after chemotherapy, and used in survival chance assessment.

6. Patients with a pathological fracture through a bony sarcoma should be treated by non-operative stabilisation of the fracture, after which standard treatment should be carried out.
9.2 Recommendations for future research

1. In reporting research on prognostic factors of osteosarcoma, authors should be encouraged to mention significant results as well as non-significant results in order to make pooling of literature more feasible.

2. More effort should be put in making studies methodologically compatible, in the sense of more uniform inclusion, end points, and reporting.

3. Raw data should be made available. A web based cooperative prospectively kept database could reveal much information and should be aimed for.

3. The value of colour Doppler ultrasound, dynamic MRI, and other imaging techniques for predicting chemotherapy response before surgery should be further investigated.

4. Serum alkaline phosphatase and its sub fractions should be further evaluated for their value of predicting survival in adult, and paediatric osteosarcoma patients.

5. Large scale prospectively conducted cooperative studies should be directed at prognostic factors. With the identified independant prognostic factors a nomogram should be developed in which the survival chance for the individual patient can be estimated.