

Soft Tissue Tumours – Basic Information

The incidence of soft tissue tumours is difficult to estimate, especially the ratio of benign to malignant. Benign lesions are usually estimated to be approximately 100 times more frequent than sarcomas. Sarcomas are relatively rare, constituting about 1% of all malignant tumours. In Sweden, the annual incidence of sarcomas of the locomotor system has been estimated to be 1.4/100,000. Age-specific incidence rates clearly demonstrate that soft tissue sarcomas of the locomotor system become more common with increasing age; in one study their incidence was 8.0/100,000 for patients 80 years or older.

Generally soft tissue sarcoma is more common in males but gender as well as age-related incidence depends on the histogenetic type.

Soft tissue tumours are usually classified histogenetically and within each group they are divided into benign lesions, sarcomas and intermediate or borderline tumours.

In this atlas, we use the classification proposed by Kempson et al. [1] and Weiss and Goldblum [2], respectively.

Since knowledge of the histotype of a sarcoma alone is not always sufficient to predict clinical course and choice of therapy, a number of grading systems, based on a variety of parameters, have been suggested and debated. The most frequent parameters used are cellularity, differentiation, cellular and nuclear pleomorphism, mitotic rate, necrosis and vascular invasion. The number of grades varies; two, three and four grades have been proposed. However, the histotype in itself may indicate tumour grade. For example, the extraskeletal

Ewing's sarcoma (ES)/primitive neuroectodermal tumour (PNET) family of tumours, rhabdomyosarcoma and pleomorphic liposarcoma are all high-grade malignant, while well-differentiated liposarcoma, paucicellular myxoid liposarcoma, infantile fibrosarcoma and dermatofibrosarcoma protuberans are low grade. Provided that a FNA smear from a sarcoma is technically satisfactory and moderately cellular it is possible to grade most sarcomas into low-grade or high-grade categories.

The diagnostic workup of a soft tissue tumour before surgery includes site, type diagnosis and location in relation to the surrounding tissues, especially major nerves and vessels. Magnetic resonance imaging is usually best for this evaluation. For patients with sarcomas lung radiographs and sometimes computed tomography scans are obtained; it is important to determine whether metastatic disease is present in order to plan management.

In an attempt to predict outcome, to determine appropriate treatment and to make comparisons between the results of different centres, several staging systems have been proposed. However, there is no general consensus as to which one to use. Two which are commonly used are the American AJCC/UICC system (American Joint Committee/International Union Against Cancer) which is based on depth, grade and size, and the French FNCLCC system (French Federation of Cancer Centers) based on the same factors but with a more detailed definition of malignancy grade.