Definition

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Soft tissue tumors include both benign neoplasms and malignant neoplasms (i.e., sarcomas) originating from mesenchymal cells (which derive from the mesoderm) with different types of **differentiation** such as the following: adipocytic (e.g., lipoma among benign tumors, liposarcoma among sarcomas), fibroblastic/myofibroblastic (e.g., elastofibroma, myxofibrosarcoma), fibrohistiocytic (e.g., tenosynovial giant cell tumor, malignant tenosynovial giant cell tumor), smooth muscle (e.g., leiomyoma, leiomyosarcoma), pericytic (e.g., angioleiomyoma, malignant glomus tumor), skeletal muscle (e.g., rhabdomyoma, rhabdomyosarcoma), vascular (e.g., hemangioma, angiosarcoma), and osteo-cartilagineous (e.g., soft tissue chondroma, extraskeletal osteosarcoma).

Actually the family of soft tissue tumors also includes neoplasms originating from highly specialized organ-specific mesenchymal cells (e.g., gastrointestinal stromal tumor), cells of neuroectodermal origin (e.g., schwannoma, malignant peripheral nerve sheath tumor), and undifferentiated cells (e.g., undifferentiated pleomorphic sarcoma).

Soft tissue tumors can arise virtually in any body site and are often distinguished as neoplasms originating from "somatic" soft tissues (i.e., those found in extremities and thoraco-abdominal wall) or "visceral" soft tissues (i.e., those present in the mediastinum, retroperitoneum, and viscera). Finally, with respect to the muscular sheath, these tumors are defined as superficial (above the muscle fascia) or deep (below the fascia): however, this definition has lost most of its importance since it is no longer included in the latest TNM staging system (→ see section entitled "Prognosis").

The **biological behavior** is classified by the WHO into three categories: benign, intermediate (including forms that can locally recur and those at low risk of metastasis), and malignant (which are characterized by high risk of metastasis). Of note, some subtypes of soft tissue tumors classified among benign neoplasms can actually behave as tumors of intermediate malignant potential (e.g., cellular and atypical variants of benign fibrous histiocytoma).

S. Mocellin, *Soft Tissue Tumors*, https://doi.org/10.1007/978-3-030-58710-9_1

In the light of rarity and heterogeneity, collaborative international efforts (such as the European sarcoma database and tumor bank called Conticabase, https://conticabase.sarcomabcb.org/) are needed to gather together the information on pathological/molecular, clinical, and therapeutic aspects of these tumors and make significant advances at a faster pace.

Suggested Readings

Goldblum (2019) Enzinger & Weiss's soft tissue tumors, 7th edn
Lindberg (2018) Diagnostic pathology: soft tissue tumors, 2nd edn
Fletcher (2020) WHO classification of tumours of soft tissue and bone, 5th edn