

SOFT TISSUE SARCOMAS (SOFT TISSUE MESENCHYMAL TUMOURS) IN DOGS

Soft tissue sarcomas /soft tissue mesenchymal tumours (STS) encompass several tumours including haemangiopericytoma, peripheral nerve sheath tumour and fibrosarcoma, and less commonly liposarcoma, myxosarcoma, leiomyosarcoma, schwannoma and unspecified spindle cell tumours. They are relatively common tumours in dogs and may exfoliate enough cells to be diagnosed by cytology. That said, cell harvest can be poor from some mesenchymal tumours and collection of reactive mesenchymal cells from granulation tissue may be misidentified as neoplastic cells. Further, cytology cannot determine features that will indicate how aggressively the tumour will invade into surrounding tissue, its potential to recur or the likelihood of metastasis. Histology is necessary in order to obtain this vital information.

There appears to be two schools of thought among oncologists regarding the benefit of excisional vs incisional biopsy. Those that propound excisional biopsy with wide margins (3 cm lateral margins and 1 fascial plane deep) suggest that this avoids going near the tumour and provides *en bloc* resection. Others prefer an incisional biopsy before excision to obtain a histological grade for prognosis and allow better planning for surgery as smaller margins may be adequate for lower grade tumours. However, an individual STS may have regional variability in cellular features and if the incisional biopsy is not representative of the mass, a medium to high grade tumour may be misidentified as a low-grade neoplasm. Histology of the entire mass after excision is recommended to confirm previous findings and to evaluate margins.

STS are graded I, II and III which correlates with potential for metastasis and local recurrence after marginal excision. The likelihood of metastasis is up to 10% for Grade I, 10-20% for Grade II and 40-50% for Grade III tumours and incidence of recurrence after marginal surgery 7% for Grade I, 34% for Grade II and 75% for Grade III tumours.

STS on the extremities are often Grade I and may not recur even with incomplete margins. STS often occur in older dogs and therefore marginal excision or debulking may be worthwhile as marginal excision of low-grade lesions often does not alter the survival time.

