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Creating a risk based protocol for local recurrence in soft tissue sarcomas

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Aim: as part of the Sarcoma Optimum Follow-up Investigation (SOFI) we have been investigating risk factors for local recurrence in patients with STS.

Method: All patients treated with curative intent for a STS were identified from a prospective database. Patients with inadequate information about the primary tumour, the treatment or follow up were excluded as were patients with metastases at diagnosis or recurrent disease at presentation.

Results: Local recurrence (LR) arose in 253 of the 1457 patients (17%) in this series. The median time to LR was 20 months for low grade tumours and 12 months for high grade tumours. Risk factors for local recurrence were found to be: high grade (HR 1.78); intralesional margin (HR 3.0); age >58 (HR 1.6) and Size >10cm (HR1.8). Diagnosis and radiotherapy could not be shown to affect LR rates. Combining the four risk factors above produced an algorithm that predicted an incremental risk of LR from 8% (low risk) to 36% (high risk).

Of the 253 patients with LR, 173 developed it as the first event, but 80 had either pre-existing or synchronous metastatic disease. The overall 5 year survival was 14% for patients who had metastatic disease at or before LR, 51% for those with LR as first event and 60% for those who did not develop LR. When local recurrence was included in the model for overall survival, it remained a poor prognostic factor.

Conclusion: This model has helped establish risk factors for local recurrence and also suggests, like other recent analyses, that LR has a small but significant adverse outcome on survival. Data from this model will now be used to populate a cost/benefit analysis for the SOFI model.

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