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Early results of the treatment of lower limb myxoid liposarcoma using neo-adjuvant or adjuvant radiotherapy at a single centre

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Background: Liposarcoma accounts for approximately 17% of all soft tissue sarcomas, with 45-55% being diagnosed as the myxoid variant. Neo-adjuvant radiotherapy has potential benefits to adjuvant radiotherapy in soft tissue sarcoma management due to lower dosage and reduced treatment volume, but has a theoretical increased risk of wound healing complications. We have adopted neo-adjuvant radiotherapy as a standard treatment in the management of myxoid liposarcoma, with the initial results being compared to patients treated with conventional post-operative radiotherapy.

Patients and Methods: 14 patients who received operative intervention for a diagnosis of myxoid liposarcoma between June 2006 – June 2012 were identified, with six receiving neo-adjuvant radiotherapy and eight receiving adjuvant radiotherapy. Mean follow-up was 21 months (range 5-75 months).

Results: Patients treated with neo-adjuvant radiotherapy demonstrated a reduction in largest tumour dimension from 93.8mm to 69.4mm on MRI scan, and all had negative margins on resection. Two of the eight patients treated conventionally with surgery had positive resection margins, with negative margins obtained after further resection prior to radiotherapy. The neo-adjuvant group had one major complication (persistent foot drop) and three minor complications (two seromas and one wound infection). The adjuvant group showed two major complications (persistent post-operative pain) and one minor complication (wound infection). TESS scores were similar between neo-adjuvant and adjuvant patients (80.6 vs 78.5).

Conclusions: Initial results suggest that neo-adjuvant radiotherapy may confer benefits over adjuvant radiotherapy without adversely affecting complication rate. A larger sample size and longer follow-up will identify if the benefits demonstrated in this study are significant with comparable local control rates.

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