

The Role of Adjuvant Radiotherapy in Recurrent Salivary Pleomorphic Adenoma

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Abstract

Purpose: The role of adjuvant radiotherapy (RT) in the treatment of recurrent salivary pleomorphic adenoma (RPA) remains controversial. The aim of this study is to evaluate recurrence rates and complication rates in patients with RPA treated with surgery alone or surgery plus adjuvant radiotherapy (RT). **Method:** We conducted a retrospective analysis of 37 patients diagnosed with RPA and treated at the McGill University Health Center between years 2000 and 2010. For 22 patients treated with surgery alone and 15 patients treated with surgery plus adjuvant RT, we examined the clinical features, prevalence of surgical and RT complications as well as relapse rates. **Results:** RPA was a first recurrence for 27 patients (73%), second for 8 patients (22%) and third for 2 patients. The most frequent location of RPA was the superficial lobe of the parotid gland (15 patients, 41%), followed by both the superficial and deep lobe (9 patients, 24%). The most common surgical procedure at recurrence was subtotal parotidectomy (32%, 12 patients), followed by superficial parotidectomy (27%, 10 patients). Median follow-up was 5.5 years for both groups, with a median follow-up of 7.8 years in the surgery group and 3.8 years in the surgery plus RT group. Permanent paralysis of a marginal branch of nerve VII was seen in 2 patients from the surgery group and 1 patient from the adjuvant RT group. No major toxicity to RT was observed. Univariate and multivariate analysis of potential risk factors for relapse including location, size, multinodularity, margin status, time to relapse and use of adjuvant radiotherapy were conducted. There were 11 recurrences in the surgery group (50%) and no recurrence in the surgery plus RT group (HR= 0.24, CI 95% [0.067-0.85], p= 0.027). Disease-free survival was 68.3% at 5 years and 45.5% at 10 years in the surgery group and 100% at 5 and 10 years in the surgery plus RT group. **Conclusions:** A statistically significant decrease in RPA recurrence rate was observed in patients who received adjuvant radiotherapy. A larger sample size and longer follow-up time are required for further analysis of the potential relapse risk factors and better assessment of short and long term complication rates.

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