

# Radiotherapy as an adjuvant in the management of intracranial meningiomas: are we practising evidence-based medicine?



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## Abstract

Although increasingly used, the precise role of radiotherapy in the management of meningiomas is still disputed. The objective of this study, therefore, was to appraise the evidence for adjuvant radiotherapy in benign and atypical intracranial meningiomas, and to compare and contrast it with the current opinion and practice of neurosurgeons in the United Kingdom and the Republic of Ireland. The use of radiotherapy as a primary treatment strategy or its use in the treatment of recurrence was not considered. We performed a systematic review of the evidence for adjuvant radiotherapy in benign and atypical intracranial meningiomas, surveyed current opinion amongst neurosurgeons involved in such cases and ascertained local practice using data from the regional cancer registry. Overall, 10 cohorts were identified that fulfilled our eligibility criteria. Four studies showed significantly improved local control in patients receiving adjuvant radiotherapy for incompletely resected grade I meningiomas. Our survey demonstrated that the vast majority (98%) of neurosurgeons would not recommend adjuvant radiotherapy in grade I meningioma. In grade II meningioma, most (80%) would not advocate adjuvant radiotherapy if completely excised, but the majority (59%) would recommend radiotherapy in cases of subtotal resection. Significant variation in opinion between centres exists, however, particularly in cases of completely resected atypical meningiomas ( $p = 0.02$ ). Data from the Eastern Cancer Registration and Information Centre appears to be in line with these findings: less than 10% of patients with grade I meningiomas, but almost 30% of patients with grade II meningiomas received adjuvant radiotherapy in the Eastern region. In conclusion, our study has highlighted significant variation in opinion and practice, reflecting a lack of class 1 evidence to support the use of adjuvant radiotherapy in the treatment of meningiomas. Efforts are underway to address this with a randomized multicentre trial comparing a policy of

watchful waiting versus adjuvant irradiation.

**Keywords:** Adjuvant radiotherapy; meningioma; radiotherapy; radiosurgery; survey

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