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Radiotherapy for atypical meningiomas.

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Abstract

Object The role of postoperative radiotherapy in patients undergoing first-time resection of WHO Grade II meningioma remains unclear as reflected by varied practices in published clinical studies and national professional surveys. Much of the relevant literature is based on pre-2000 WHO grading criteria for atypical meningiomas. Authors in this study set out to explore the role of postoperative radiotherapy in patients undergoing first-time surgery for WHO Grade II meningiomas diagnosed using revised WHO 2000 criteria, against a background of otherwise limited published literature on this issue. Methods The authors retrospectively collected data on 114 consecutive patients who underwent first-time resection of WHO Grade II atypical meningiomas diagnosed using 2000 WHO criteria, and who variably underwent postoperative radiotherapy according to individual surgeon practices. Outcomes, including radiological recurrence, were submitted to Kaplan-Meier and Cox regression analyses. Results Postoperative radiotherapy demonstrated a significant benefit only when patients who had undergone gross-total tumor resection and those who had undergone subtotal resection along with postoperative radiosurgery to the tumor remnant were excluded from analysis. Conclusions The authors have performed the largest study in the literature to examine the use of radiotherapy for WHO Grade II, atypical, meningiomas following a first-time resection. They suggest that radiotherapy is not appropriate after first-time resection of those lesions in which a gross-total resection (Simpson Grade 1 or 2) has been achieved. They also advise that any tumor remnant radiologically demonstrated on postoperative imaging should be treated with radiosurgery and that postoperative radiotherapy after a first-time resection should be reserved for tumor remnants too large for radiosurgery and for which a second staged operation is not planned.

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