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Radiation Necrosis

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Definition

Radiation necrosis is a rarely occurring late complication of radiotherapy of the parenchymal central nervous system. It can be treated with resection or corticosteroids but often occurs when prognosis is poor and morbidity is high. Its radiographic characteristics can make it very difficult to discriminate from new tumor, tumor recurrence, or tumor growth, as it can be progressive, causes clinical symptoms, and is associated

with mass effect and edema. Radiation necrosis can result from any technique, but the likelihood is positively associated with radiation dose and the occurrence may be reduced by lower fractions and lower total dose (Schneck et al. 2006). Bevacizumab (Avastin) may halt radiation necrosis or even reverse some of the damage (Levin et al. 2011).

References and Readings

- Levin, V. A., Bidaut, L., Hou, P., Kumar, A. J., Wefel, J. S., Bekele, B. N., et al. (2011). Randomized double-blind placebo-controlled trial of bevacizumab therapy for radiation necrosis of the central nervous system. *International Journal of Radiation Oncology, Biology, and Physics*, 79(5), 1487–1495.
- Schneck, M. J., Wilson, R., & Janss, A. (2006). Radiation necrosis. eMedicine. Accessed 10 Mar 2006.