Radiotherapy Precisely Targets Acoustic Neuromas

BY BRUCE JANCIN
Denver Bureau

DENVER — Use of fractionated stereotactic radiotherapy provides excellent local control of acoustic neuroma with lower rates of facial sensory and motor nerve damage than neurosurgery, Stephanie E. Combs, M.D., said at the annual meeting of the American Society for Therapeutic Radiology and Oncology.

Applying radiotherapy on a fractionated schedule allows delivery of higher doses to the tumor while avoiding the morbidity in normal tissues that occurs with single-dose radiosurgery, said Dr. Combs of the University of Heidelberg, Germany.

She presented a prospective uncontrolled study of 108 patients regularly followed for a median of 48.5 months after undergoing linear accelerator–based fractionated stereotactic radiotherapy (FSRT) for acoustic neuroma. The tumor was associated with neurofibromatosis in 13 patients. Of the 108 patients, 85 had not undergone any treatment prior to FSRT; the remainder underwent FSRT as a salvage procedure for tumor recurrence or progression after neurologic resection.

Actuarial local tumor control after FSRT was 94.3% at 3 years and 93% at 5 years, regardless of tumor size, the presence of neurofibromatosis, or patient age.

Of patients with serviceable hearing prior to FSRT, 94% demonstrated preservation of useful hearing at 5 years. Of the 18 patients who had facial nerve dysfunction prior to FSRT, all but 3 developed the problem secondary to neurosurgery. The rate of new-onset facial nerve dysfunction after FSRT was 2.3%; affected patients had neurofibromatosis and large volumes of irradiated tissue.

Moderate irreversible radiation-induced damage to the trigeminal nerve developed in 3.4% of patients. No new severe damage to the nerve developed as a result of FSRT, she said. ■

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