Hypofractionated CyberKnife stereotactic radiosurgery for acoustic neuromas with and without association to neurofibromatosis Type 2

林家瑋

Ju DT;Lin JW;Lin MS;Lee LM;Tseng HM;Wei CP;Yen CH;Hung CFC;HungKS;Lin CM;Lin TJ;Ch

摘要

Abstract

CyberKnife stereotactic radiosurgery (CKSRS) has been proved effective in treating intra-cranial lesions. To treat acoustic neuroma (AN) patients with or without neurofibromatosis Type 2 (NF2) associations, the functional preservation of hearing, trigeminal nerve, and facial nerve are important. Twenty-one patients were treated with hypofractionated CKSRS. Fourteen non-NF2 and seven NF2 patients were enrolled. Cranial nerve function, audiograms, and magnetic resonance images (MRI) were monitored. Mean follow-up was 15 month. Tumors with volumes ranging from 0.13 to 24.8 cm3 (mean 5.4 cm3) were irradiated with the marginal dose 1800-2000 cGy/3 fractions. Tumors were treated with an 80 to 89% isodose line (mean 83%) and mean 97.9% tumor coverage. Two patients experienced hearing deterioration (16.7%) in the non-NF2 group, and 3 patients (50%) in the NF2 group. No facial or trigeminal dysfunction, brain stem toxicity, or cerebellar edema occurred. Tumor regression was seen in 9 patients (43%) and stable in 12 patients (57%). 100% tumor control rate was achieved. Hypofractionated CKSRS was not only effective in tumor control but also excellent in hearing preservation for non-NF2 AN. But for NF2 patients, although the tumor control was remarkable, hearing preservation was modest as in non-NF2 patients.

.

.