Stereotactic Radiosurgery for Nasopharyngeal Carcinoma

Dear OncoLink "Ask the Experts,"

My father is receiving external beam radiation for his nasopharyngeal cancer. He will get stereotactic radiosurgery at the end of his regular radiation treatments. The doctor said radiosurgery improves tumor control. Where can I find more information on this?

Thanks!

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Li Liu, MD, OncoLink editorial assistant, responds:

Dear T:

Thank you for your interest and question.

Nasopharyngeal carcinoma (NPC) is a common malignancy in Southeast Asia and Northern African, but relatively rare in the United States. Because of the anatomic location, the tumor not infrequently spreads through the skull base and causes cranial nerve injury. Radiotherapy is the primary treatment for the majority of patients with NPC because of the location and radiosensitivity of the tumor. However, many series have demonstrated a significant incidence of local failure in patients with more advanced disease after conventional external beam radiotherapy (EBRT). Various boosting techniques have been used clinically, including brachytherapy, stereotactic radiosurgery (SRS), and intensity modulated radiation therapy (IMRT), to improve local control of tumor.

Stereotactic radiosurgery represents a unique treatment method for the management of selected intracranial (primary and metastatic) and skull base tumors. During a single-session procedure, a high-radiation dose is delivered to the lesion, but normal tissues surrounding the tumor receive minimal radiation dose. In order to maintain accuracy of delivery, the skull is fixed by rigid external device during treatment. Stereotactic radiosurgical boost following radiotherapy may improve local control in patients with advanced stage NPC. In one series, all of 23 consecutive patients (22 with stage IV disease) receiving a stereotactic boost following fractionated radiotherapy were locally controlled at a mean follow-up of 21 months (Int J Radiat Oncol Biol Phys 1999 Nov 1;45(4):915-21). Eight patients subsequently developed regional or distant metastases.

Despite the benefits of this SRS boost (in terms of local control), it is obvious that more effective chemotherapy is needed in selected group of patients to decrease the incidence of late systemic recurrence.

Li Liu, MD
11/1/01

No