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## THE OUTCOME OF PATIENTS WITH NASOPHARYNGEAL CARCINOMA TREATED WITH SUBOPTIMAL RADIATION DOSE

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***Purpose*** : To study the outcome of undertreated nasopharyngeal carcinomas (NPC) in patients who received external beam radiation doses of no more than 4500 cGy.

***Materials and Methods*** : From April 1979 to December 1997, 138 NPC patients receiving radiotherapy with external beam radiation (EBRT) doses of no more than 4500 cGy at the Department of Radiation Oncology, Chang Gung Memorial Hospital, Linkou, were included in this study. Total doses ranged from 180 cGy to 4500 cGy with a median dose of 2520 cGy. The survivals were calculated by Kaplan-Meier method. The median follow-up time was 7 years.

***Results*** : At the time of last follow-up, the 1- and 5-year survival rates for the 138 undertreated NPC patients, derived using the Kaplan-Meier method, were 52% and 11%, respectively. One hundred and twenty-nine patients had died of the disease. One patient had died of intercurrent disease. Five patients were alive without disease. Two patients were alive with disease. One patient was loss of follow-up. The median survival of these patients was 1.06 years (range from 0.03 ~ 19.7 year). At the end of study, local recurrent or persistent tumors were determined for 94 patients (68%). Forty-nine patients (35.5%) subsequently developed distant metastases. The causes of death were: locoregional disease: 56% (n = 77), distant metastasis: 27.5% (n = 38), cachexia: 11% (n = 15), cerebrovascular accident: 0.7% (n = 1). Bone, liver and lung were the most common metastatic sites. Most of the patients died within two years after interruption of treatments. Death was the only outcome evaluated. Less than 5% patients (n = 5) were alive without disease till the time of analysis.

***Discussion*** : The prognosis has been dismal for undertreated NPC patients. Our study confirmed that long-term survival is rare in patients with NPC receiving EBRT doses not more than 4500 cGy. The majority of patients died within 2 years after interruption of radiotherapy (RT). The acute side effects and complications of RT were the primary factors influencing the patient's decisions to drop out of the treatment.

[ *Therapeut Radiol Oncol* 2003; 10(2): 63-68 ]

Key words: Undertreatment, Nasopharyngeal carcinoma, Radiotherapy