

## Comparison of Result with Radiation Therapy Alone, Surgery followed by Radiation Therapy, and Neoadjuvant Chemotherapy and Radiation Therapy for Squamous Cell Carcinoma of Tonsil

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**Purpose :** There is no definitive randomized study to identify optimal therapeutic regimen for treatment of squamous cell carcinoma of tonsil. The purpose of this study was to retrospectively evaluate the outcome according to various combinations of surgery, radiation therapy, and chemotherapy.

**Patients and Methods :** Fifty-six patients with tonsillar carcinoma, who were treated at Seoul National University Hospital between March 1985 and August 2001, were the subjects of this study. Sixteen patients underwent radiation therapy alone (RT), 21 patients received surgery followed by RT (SRT), and 19 patients received neoadjuvant chemotherapy and RT (CRT). Median RT dose was 70.2Gy for RT and CRT group, and 66.6Gy for SRT group. Surgery comprised extended tonsillectomy and modified radical neck dissection of involved neck. Cisplatin and 5-fluorouracil were used every three weeks for 3 cycle in SRT group. The median follow-up was 73.2 months.

**Results :** The distribution of T-stage was 2 T1, 6 T2, 5 T3 and 3 T4 in RT group, 4 T1, 14 T2, 1 T3 and 2 T4 in SRT group, and 0 T1, 7 T2, 9 T3 and 3 T4 in CRT group. The distribution of N-stage was 6 N0, 5 N1, 5 N2 and 0 N3 in RT group, 5 N0, 2 N1, 13 N2 and 1 N3 in SRT group, and 2 N0,

7 N1, 9 N2 and 1 N3 in CRT group. Five-year overall survival rate (OSR) for all patients was 78%. Five-year OSR according to treatment method was RT 71%, SRT 80%, and CRT 80% ( $p=ns$ ). In radical RT group, five-year disease-free survival rate was 93% in CRT group and 71% in RT group ( $p=0.017$ ). Four patients developed local failure and one patient failed in regional site in RT group and CRT group showed no recurrence. Five-year DFS was 84% in patients who underwent neck dissection and 76% in patients who didn't ( $p=ns$ ). Treatment-related complications of grade 3 or 4 occurred in 15 patients, and incidence of complication was not different between each treatment methods.

**Conclusion :** Although the patients with more advanced stage were included in RT and CRT group, OSR was not statistically different according to treatment methods. In the radical RT group, the addition of neoadjuvant chemotherapy showed a improvement in disease-free survival. Because of retrospective nature of study and small number of patients, this study cannot conclude anything. But it may be suggested that radiation therapy with chemotherapy is sufficient for squamous cell carcinoma of tonsil. Controlled randomized study is necessary to confirm this hypothesis.