

Current and Future Direction of Chemoradiation Therapy on Head and Neck Cancer

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Various combinations of radiotherapy and chemotherapy for locally advanced head and neck cancer, such as concurrent chemoradiotherapy, neoadjuvant therapy, adjuvant therapy, and alternating therapy, have been attempted to date. Improved local-regional control and disease free or overall survival have been shown in several randomized trials using a concurrent or an alternating approach. Induction chemotherapy (neo-adjuvant chemotherapy), however, has not been shown to improve local-regional control or survival. Induction chemotherapy followed by definitive radiotherapy may be useful in the selection patients who are likely to benefit from non-surgical organ preservation treatment schemes.

Currently, most clinical trials of radiotherapy and chemotherapy are evaluating the therapeutic values of concurrent combination therapy. Theoretically, the combination of concurrent radiotherapy and chemotherapy shows the highest

anti-tumor effects. However, normal tissue impairment induced by concurrent chemoradiotherapy sometimes becomes a great problem. Moreover, a decreased dose of chemotherapy and radiotherapy may result in a decreased therapeutic value, although the frequency of normal tissue impairment is decreased. Compared to concurrent chemoradiotherapy, sufficient doses of anti-tumor agents and radiation can be administered during alternating chemoradiotherapy, because alternating chemoradiotherapy scarcely injures the normal tissue.

Since 1987, we initiated alternating chemoradiotherapy using CDDP and 5-FU. Although the number of subjects was limited, our previous non-randomized study showed excellent therapeutic results. The present study evaluated the therapeutic results of alternating chemoradiotherapy, together with its usefulness and controversial points.