Successful Organ Preservation in Advanced Glottic Cancer

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INTRODUCTION

Due to the advances in surgical techniques as well as chemoradiotherapy, the prognosis of laryngeal carcinoma improved dramatically as compared to other malignancies such as hypopharyngeal carcinoma. In early stage laryngeal carcinomas, almost satisfactory results are obtained either by laser surgery or radiation therapy. Even in advanced laryngeal carcinomas, most of the patients have been rescued by combined total laryngectomy and radiation therapy. For a better quality of life, therefore, our interest in advanced laryngeal carcinomas is how to preserve the voice function without decreasing the reasonable prognostic results. Induction chemotherapy followed by radiotherapy has been developed as a standard alternative to total laryngectomy. Concomitant radiotherapy by cisplatin and fluorouracil is one of the most popular organ preservation therapy against advanced laryngeal cancer.

PATIENTS AND METHODS

Intra-arterial selective infusion chemotherapy combined with radiation was applied to 10 advanced (seven T3, three T4) laryngeal carcinoma patients. Chemotherapy was administered intra-arterially in the angiography suite on selective transarterial catheterization of the superior thyroid artery (Fig 1). Delivery of the dose to the feeding arteries was determined according to angiographic findings. In a patient with supraglottic carcinoma, part of the dose was delivered through the lingual artery so as to cover the base of the tongue. The patients received up to 5 weekly infusions of cisplatin (75-100mg/body) with simultaneous intravenous administration of sodium thiosulfate, a neutralizing agent.

RESULTS

Complete response (CR) of the local disease was available in every patient and the condition is uneventful (Fig 4). The selective intra-arterial (AI) infusion chemotherapy combined with radiation therapy has been the most useful protocol against malignant sinonasal carcinomas. However, it has been difficult to obtain a local control of the tumor because of the vascularity of the tumor lesion using proper artery superselectively. Continuous infusion of anticancer agent through the superficial temporal artery to the thyroid artery close to the carotid bifurcation is quite dangerous because of the overflow to the internal carotid artery. The intra-arteral infusion of anti-cancer agent was successfully accomplished in 8 of 10 patients. Two patients were excluded from this IA protocol because of unfavorable histopathological feature of the arterial distribution in the paraglottic space and cricoid area, the appropriate preservation therapy of the larynx in locally advanced carcinoma is going.

DISCUSSION

In the treatment of advanced laryngeal carcinomas, there are patients who strongly reject the removal of the larynx. In patients who suffer from other malignancies with unfavorable prognosis, voice preservation therapy is highly required for their quality of life. In such cases, we have applied palliative chemo-radiotherapy but the results are often miserable. The selective intra-arterial (AI) infusion chemotherapy combined with radiation therapy has been the most useful protocol against malignant sinonasal carcinomas. However, it has been difficult to obtain a local control of the tumor because of the vascularity of the tumor lesion using proper artery superselectively. Continuous infusion of anticancer agent through the superficial temporal artery to the thyroid artery close to the carotid bifurcation in the paraglottic space is going. In such cases, we have applied palliative chemo-radiotherapy but the results are often miserable. The selective intra-arterial (AI) infusion chemotherapy combined with radiation therapy has been the most useful protocol against malignant sinonasal carcinomas. The tumor has completely disappeared and the condition is uneventful (Fig 4).

CONCLUSION

The selective intra-arterial rapid infusion chemo-radiotherapy might acquire the possible organ preservation treatment of advanced laryngeal carcinomas.