

## 学位論文抄録

Morphological Changes of Salivary Glands in Oral Cancer Patients Treated with  
Preoperative Chemoradiation Therapy  
(口腔癌に対する術前化学放射線療法に伴う  
唾液腺の形態学的変化についての検討)

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## **Abstract of the Thesis**

**Purpose:** We evaluated the morphological changes including radiological and histopathological findings of salivary glands in oral cancer patients treated with preoperative chemoradiation therapy (CRT).

**Methods:** In the study of Chapter 2, twenty patients with advanced oral squamous cell carcinomas, who treated with preoperative CRT, underwent morphological assessment with Computed Tomography (CT) or magnetic resonance imaging (MRI) and functional assessment with the Saxon test.

In the study of Chapter 3, eligibility criteria were a pathologic diagnosis of oral squamous cell carcinoma, preoperative CRT with a total dose of 30 Gy and oral S-1 (80 mg/m<sup>2</sup>/day), the availability of morphological assessments by CT and of functional assessments with the Saxon test before- and 2 weeks after CRT, and the availability of histopathological slides of irradiated parotid and submandibular glands. In the histopathological interpretation, gland structures were divided into acinar-, duct-, and adipose cells and other tissues.

**Results:** The post-CRT:pre-CRT parotid volume ratio ranged from 54 - 85% (mean, 71%). There was a correlation between decreased parotid gland volume and decreased saliva production in the patients undergoing CRT. Histopathologically, acinar cell loss is a main contributor to changes in the volume and function of irradiated human parotid and submandibular glands. However, some acinar cells were retained after 30-Gy irradiation.

**Conclusion:** In another study, we have demonstrated that the recuperation of morphological and functional changes occur in the course of 2-year follow-up in patients treated with 30-Gy irradiation. To avoid the sequelae of xerostomia, oral cancer patients undergoing CRT should receive oral care for at least 2 years after CRT. If in the course of definitive CRT saliva production is markedly decreased and morphological changes occur in the parotid gland volume, we recommended re-evaluation of the radiation-dose distribution.