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学位論文の題名	<p>The relationship between the severity of radiation-induced oral mucositis and the myeloperoxidase level in rats (ラットモデルにおける放射線性口腔粘膜炎重症度とミエロペルオキシダーゼの相関性について)</p> <p>Oral Surgery Oral Medicine Oral Pathology Oral Radiology (accept for publication)</p>
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# **The relationship between the severity of radiation-induced oral mucositis and the myeloperoxidase levels in rats.**

Miyamoto H, Kanayama T, Horii K, Kawai T, Tsuchimochi T, Shigetomi T, Shibamoto Y, Shibuya Y.

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## **OBJECTIVE:**

Oral mucositis is a common adverse reaction to radiotherapy for head and neck cancer, and there are concerns regarding a decreased quality of life in patients receiving radiotherapy. <sup>1)2)</sup> Myeloperoxidase (MPO) is thought to be involved in the process of development of radiation-induced oral mucositis; however, there are currently no reports demonstrating the relationship between the severity of radiation-induced oral mucositis and the MPO levels in tissues. The purpose of this study was to investigate the relationship between the severity of radiation-induced oral mucositis and the MPO levels in irradiated tissues.

## **STUDY DESIGN:**

Ninety-six F344 rats were divided into the following 4 groups: 10-Gy, 18-Gy, and 30-Gy irradiation groups, and a nonirradiation group. Oral mucositis was induced by the administration of single doses of radiation via exposure. <sup>3)</sup>After irradiation, the rats were evaluated on the basis of weight measurements, macroscopic findings according to a grading scale (Oral Mucositis Index [OMI]), <sup>4)</sup>and the results of tissue MPO assays.

## **RESULTS:**

Weights decreased whereas the OMI scores and MPO levels increased, depending on the dose of exposure. The Spearman rank correlation test showed a significant correlation between the OMI scores and the MPO levels in the tissues with a correlation coefficient of 0.824 ( $P < .01$ ).

## **CONCLUSIONS:**

In this study, the MPO levels in the irradiated tissue were increased in the cases involving severe radiation-induced oral mucositis evaluated in rats using a grading scale.

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