

Oral Radiation Oncology

1. Staffs and Students (April 2010)

Professor	Masahiko MIURA	
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Graduate Students(Doctor)	Atsushi KAIDA, Asuka HONDA	Sara AHRABI
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International Resercher	Nguyen Duy SINH	

2. Purpose of Education

Oral Radiation Oncology is a branch of radiation oncology dealing with basic radiobiology, translational research, and radiotherapy for oral cancer. Main objective of this branch in the graduate course is to provide opportunities to study biological strategies for radiosensitization, development of radiosensitizers, molecular mechanism of tumor radioresistance, the state of the art technology of radiotherapy, and basis of individualized radiotherapy depending on each student's research projects.

3. Research Subjects

- 1) Signal transduction of insulin-like growth factor I (IGF-I) receptor
- 2) Tumor radiosensitization and antiangiogenic mechanism by sulfoglycolipids
- 3) Visualization of radioresponse by molecular imaging
- 4) Radiotherapy for oral cancer

4. Clinical Services

Oral Radiation Oncology clinic provides radiotherapeutic treatment for head and neck cancer patients, especially brachytherapy for oral cancer, in cooperation with Diagnostic and Therapeutic Radiology clinic in the Medical Hospital.

5. Publications

Original article

1. Ohta K, Murata H, Mori Y, Ishima M, Sugawara F, Sakaguchi K, Miura M: Remodeling of the tumor microenvironment by combined treatment with a novel radiosensitizer, α -Sulfoquinovosylmonoacylglycerol (α -SQMG) and X-irradiation. *Anticancer Res* 30: 4397-4404, 2010
2. Yu D, Nagamura Y, Shimazu S, Naito J, Kaji H, Wada S, Honda M, Xue L, Tsukada T: Caspase 8 and menin expression are not correlated in human parathyroid tumors. *Endocr J* 57:825-832, 2010
3. Takakusagi K, Takakusagi Y, Ohta K, Aoki S, Sugawara F, Sakaguchi K: A sulfoglycolipid beta-sulfoquinovosyldiacylglycerol(betaSQDG) binds to Met1-Arg95 region of murine DNA polymerase lambda (Mmpol lambda) and inhibits its nuclear transit. *Protein Eng Des Sei* 23:51-60, 2010
4. Kaida A, Sawai N, Sakaguchi K, and Miura M: Fluorescence Kinetics in HeLa cells after treatment with cell cycle arrest inducers visualized with the Fucci (fluorescent ubiquitination-based cell cycle indicator). *Cell Biol Int* in press
5. Abe S, Hamada K, Yamaguchi S, Amagasa T and Miura M: Characterization of the radioresponse of human apical papilla-derived cells (APDCs). *Stem Cell Res Ther* in press