Oral and Maxillofacial Radiology

1. Staffs and Students (April, 2010)

Professor	Tohru KURABAYASHI	
Associate Professor	Mizue IDA	
Junior Associate Professor	Naoto OHBAYASHI,	Norio YOSHINO
Assistant Professor	Akemi TETSUMURA,	Shin NAKAMURA,
	Hiroshi WATANABE,	Kiyoshi OKOCHI
Tokunin Assistant Professor	Ami KURIBAYASHI	
Hospital Staff	Akiko IMAIZUMI,	Natsuko TAKATSUKA
Graduate Student	Yoshikazu NOMURA,	Yosuke KAMIYAMA,
	Kretapirom KORNKAMOL,	Kamrun NAHAR
	Akira TAKAHASHI	
Secretary	Izumi MOTOHASHI	

2. Purpose of Education

Oral and maxillofacial radiology is a branch of dental science which deals with the effective application of radiation energy to the diagnosis and treatment of oral and maxillofacial diseases. Main objective of oral and maxillofacial radiology in the graduate course is to provide students opportunity to study advanced imaging modalities including digital imaging, cone-beam CT, multi-detector row CT and MRI, and also to study image processing and image analysis technology. Students are also taught on basic radiation oncology and its related laboratory technology depending on their research project.

3. Research Subjects

1) Diagnosis of maxillofacial diseases by CT, MRI and PET imaging
2) Advantages of cone-beam CT for clinical dentistry
3) Development of high resolution MRI technology.
4) Novel MRI techniques for TMJ disorders.
5) Factors determining radioresistance of oral and maxillofacial cancers.

4. Clinical Services

Oral and maxillofacial radiology clinic provides a full spectrum of imaging examinations and diagnosis, including CT and MRI. Non-invasive, interventional radiology for patients with salivary gland stone is also performed in the clinic.

5. Publications

Original Article

1. Alkhader M, Kuribayashi A, Ohbayashi N, Nakamura S, Kurabayashi T. Usefulness of cone beam computed tomography in temporomandibular joints with soft tissue pathology. Dentomaxillofac Radiol 39:343-8, 2010.
2. Alkhader M, Ohbayashi N, Tetsumura A, Nakamura S, Okochi K, Momin MA, Kurabayashi T. Diagnostic performance of magnetic resonance imaging for detecting osseous abnormalities of the temporomandibular joint and its correlation with cone beam computed tomography. Dentomaxillofac Radiol 39:270-6, 2010.
3. Inohara K, Sumita YI, Ohbayashi N, Ino S, Kurabayashi T, Ifukube T, Taniguchi H. Standardization of thresholding for binary conversion of vocal tract modeling in computed tomography. J Voice 24: 503-509, 2010.
4. Kuribayashi A, Watanabe H, Imaizumi A, Tantatanapornkul W, Katakami K, Kurabayashi T. Bifid mandibular canals: cone beam computed tomography evaluation. Dentmaxillofac Radiol 39:235-239, 2010.
5. Nomura T, Watanabe H, Honda E, Kurabayashi T. Reliability of voxel values from cone-beam computed tomography for dental use in evaluating bone mineral density. Clin Oral Implant Res 21:558-562, 2010.
6. Watanabe H, Honda E, Tetsumura A, Kurabayashi T. Modulation transfer function evaluation of cone beam computed tomography for dental use with the oversampling method. Dentomaxillofac Radiol 39:28-32, 2010.
7. Watanabe H, Momin MA, Kurabayashi T, Aoki H. Mandible size and morphology determined with CT on a premise of implant operation. Surg Radiol Anat 32:33-9, 2010.
8. Watanabe H, Wagatsuma T, Nomura Y, Honda E, Kurabayashi T. Spatial resolution of FineCube, a newly developed cone-beam computed tomography system. Oral Radiol 26:56-60, 2010.

9. Yamada I, Yoshino N, Tetsumura A, Okabe S, Enomoto M, Sugihara K, Kumagai J, Shibuya H. Colorectal carcinoma: local tumor staging and assessment of lymph node metastasis by high-resolution MR imaging in surgical specimens. Int J Biomed Imaging 2009;2009:659836. Epub 2010 Jan 31.