

# Periodontology

## 1. Staffs and Students (April, 2009)

Professor	Yuichi IZUMI	
Associate Professor	Hisashi WATANABE	
Lecturer	Shigeru ODA,	Satsuki HAGIWARA
Research Associate	Makoto UMEDA, Akira AOKI, Yasuo TAKEUCHI	Shinichi ARAKAWA, Hiroaki KOBAYASHI,
GCOE AI Supper Students	Noriko EBE, GA Rajakaruna, Bharti PARIKSHA, Akiko HIMENO	Aleksic Verica, Aslam AL Mehdi, Takafumi SUZUKI,
Graduate Students	Keiko TANAKA, Norio AOYAMA, Chihiro HARUTA, Yoichi TANIGUCHI, Hiromi NANBARA, Marika TAKAHASHI, Masanori SAWABE, Naho KOBAYASHI, Tomoya HANATANI, Kenichiro EJIRI, Hospital Staff: 6, Registered dentist: 25	Hidetomo ONISHI, Tie KOBAYASHI, Tatsuro KOYANAGI, Mayu TERACHI, Sae HAYAKUMO, Yuka TSUMANUMA, Azusa YAMADA, Kaori FUJIWARA, Yasuo ITO, Chui Chanthoel Research Student: 21,

## 2. Purpose of Education

Periodontology is a branch of dental science which deals with supporting structures of teeth, diseases and conditions affecting them. Main objectives of periodontology in the graduate course are to provide students with basic knowledge of etiology of periodontal diseases, its treatment modality and prognosis, and also to study advanced regenerative therapy.

## 3. Research Subjects

- 1) Periodontal microbiota and their pathogenicity
- 2) Inflammatory and immunological factors in periodontal disease
- 3) Analysis of growth factors and bio materials in periodontal regeneration
- 4) Clinical applications of laser in periodontics
- 5) Influence of periodontal disease on general health

## 4. Clinical Services

Periodontal clinic provides diagnosis, treatment and prevention of periodontal disease. Periodontal surgery and regenerative therapy are also performed in the clinic.

## 5. Publications

### Original Article

1. Chen YW, Nagasawa T, Nawarat WA, Ushida Y, Wang DQ, Takeuchi Y, Kobayashi H, Umeda M, Inoue Y, Iwai T, Ishikawa I, Izumi Y. Association between periodontitis and anti-cardiolipin antibodies in Buerger disease. *J Clin Periodontol* 36(10): 830-835, 2009.
2. Eguro T, Aoki A, Maeda T, Takasaki AA, Hasegawa M, Ogawa M, Suzuki T, Yonemoto K, Ishikawa I, Izumi Y, Katsuumi I. Energy output reduction and surface alteration of quartz and sapphire tips following Er:YAG laser contact irradiation for tooth enamel ablation. *Laser Surg Med* 41:595-604, 2009.
3. Kayamori K, Sakamoto K, Nakashima T, Takayanagi H, Morita K, Omura K, Nguyen ST, Miki Y, Iimura T, Himeno A, Akashi T, Yamada-Okabe H, Ogata E, Yamaguchi A. Roles of IL-6 and PTHrP in osteoclast formation associated with oral cancers: The significance of IL-6 synthesized by stromal cells in response to cancer cells. *Am J Pathol*

176(2):968-980, 2009.

4. Katagiri S, Nitta H, Nagasawa T, Uchimura I, Izumiyama H, Inagaki K, Kikuchi T, Noguchi T, Kanazawa M, Matsuo A, Chiba H, Nakamura N, Kanamura N, Inoue S, Ishikawa I, Izumi Y. Multi-center intervention study on glycohemoglobin (HbA1c) and serum, high-sensitivity CRP (hs-CRP) after local anti-infectious periodontal treatment in type 2 diabetic patients with periodontal disease. *Diabetes Res Clin Pract* 83: 308-315, 2009.
5. Kobayashi T, Nagata T, Murakami S, Takashiba S, Kurihara H, Izumi Y, Numabe Y, Watanabe H, Kataoka M, Nagai A, Hayashi J, Ohyama H, Okamatsu Y, Inagaki Y, Tai H, Yoshie H. Genetic risk factor for periodontitis in a Japanese population. *J Dent Res* 88(12):1137-1141, 2009.
6. Miyazaki H, Kato J, Kakizaki H, Nagata T, Uetake H, Okudera H, Watanabe H, Hashimoto K, Omura K. Submucosal glycerol injection assisted laser surgical treatment of oral lesions. *Lasers Med Sci* 24:13-19, 2009.
7. Miyazaki H, Kato J, Watanabe H, Harada H, Kakizaki H, Tetsumura A, Sato A, Omura K. Intralesional laser treatment of voluminous vascular lesions in the oral cavity. *Oral Surgery Oral Med Oral Pathol Oral Radiol Endodontology* 107(2):164-172, 2009.
8. Sato I, Akizuki T, Oda S, Tsuchioka H, Hayashi C, Takasaki A.A, Mizutani K, Kawakatsu N, Kinoshita A, Ishikawa I, Izumi Y. Histological evaluation of alveolar ridge augmentation using injectable calcium phosphate bone cement in dogs. *J Oral Rehabil* 36 762-769, 2009.
9. Suda T, Nagasawa T, Wara-aswapati N, Kobayashi H, Iwasaki I, Yashiro R, Hormdee D, Nitta H, Ishikawa I, Izumi Y. Regulatory roles of  $\beta$ -catenin and AP-1 on OPG production in IL-1 $\alpha$ -stimulated periodontal ligament cells. *Oral Microbiol Immunol* 24(5):384-389, 2009.
10. Thanyasrisung P, Komatsuzawa H, Yoshimura G, Fujiwara T, Yamada S, Kozai K, Eto K, Izumi Y, Sugai M. Automutanolysin disrupts clinical isolates of cariogenic streptococci in biofilms and planktonic cells. *Oral Microbiol Immunol* 24: 451-455, 2009.
11. Yamashita D, Machigashira M, Miyamoto M, Takeuchi H, Noguchi K, Izumi Y, Ban S. Effect of surface roughness on initial responses of osteoblast-like cells on two types of zirconia. *Dent Mater J* 28(4): 461-470, 2009
12. Yoshino T, Aoki A, Oda S, Takasaki AA, Mizutani K, Sasaki KM, Kinoshita A, Watanabe H, Ishikawa I, Izumi Y. Long-term histologic analysis of bone tissue alteration and healing following Er:YAG laser irradiation compared to electrosurgery. *J Periodontol* 80(1): 82-92, 2009.

#### Review Article

1. Ishikawa I, Aoki A, Takasaki AA, Mizutani K, Sasaki KM, Izumi Y. Application of lasers in periodontics - true innovation or myth? *Periodontol 2000* 50(1): 90-126, 2009.
2. Izumi Y, Nagasawa T, Umeda M, Kobayashi H, Takeuchi Y, Yashiro R, Hormdee D, Suda T, Ushida Y, Nawarat WA. Periodontitis and cardiovascular diseases: The link and relevant mechanisms. *Japanese Dental Science Review* 45: 98-108, 2009.
3. Schwarz F, Aoki A, Sculean A, Becker J. Impact of laser application to support periodontal and peri-implant wound healing. *Periodontol 2000* 51:79-108, 2009.
4. Takasaki AA, Aoki A, Mizutani K, Schwarz F, Sculean A, Wang C-Y, Koshy G, Romanos G, Ishikawa I, Izumi Y. Application of antimicrobial photodynamic therapy in periodontal and peri-implant diseases. *Periodontol 2000* 51:109-140, 2009.

#### Book

1. Schwarz F, Takasaki AA, Aoki A, Sager M, Becker J. Antimicrobial photodynamic therapy. In: Schwarz F and Becker J. Peri-implant infection: Etiology, diagnosis and treatment. pp. 191-195. Quintessence, 2009.