

**The 4th Annual Meeting of
Japanese Association of Regeneration Dentistry
September 9-10, 2006, Osaka, JAPAN**

Educational Lecture I

Regulatory signalings of osteoclast and osteoblast differentiation

Toshiyuki Yoneda

Professor & Chairman, Dept. Biochemistry, Osaka Univ. Grad. Sch. Dent.

Educational Lecture II

Application of regenerative therapy on the daily clinical practice

Hiroshi Okuda

Dept. Biochemistry, Osaka Dent. Univ., The director of Okuda Dental Clinic

Lecture I

Clinical application to bone substitution and peri-implant bone based on animal experiment

Atsushi Ookubo

Dept. Histology, Cytology and Development, Nihon Univ., Sch. Dent. at Matsudo
Japan Institute of Advanced Dentistry, HIU Dental Clinical Institute

Lecture II

Approach to the periodontal tissue regeneration

Akio Tanaka

Dept. Oral Pathology, Osaka Dent. Univ.

Lecture III

Application of regenerative therapy in the esthetic zone

- The focus on periodontal regenerative therapy and implant therapy -

Yasukazu Miyamoto

An instructor of Japan Institute for Advanced Dental Studies

Lecture IV

The past, the present and the future of autotransplantation of teeth

Mitsuhiro Tsukiboshi

Tsukiboshi Dental Clinic

Symposium

1. Bone regeneration using controlled release of growth factors
Akishige Hokugo
Research Fellow, Japan Society for Promotion of Science (JSPS),
Institute for Frontier Medical Sciences, Kyoto Univ.
Part-time Lecturer, Grad. Sch. Dent., Osaka Dental Univ.
2. Activation of small G-protein Rap1 increases bone mass
Akimi Ueda
Dept. Biochemistry, Osaka Univ. Grad. Sch. Dent.
3. Preliminary studies of transgene engineered bone regeneration
Shinji Kuroda, Tooru Hiraga, Toshiyuki Yoneda
Oral Implantology and Regenerative Dental Medicine,
Grad. Sch., Tokyo Medical and Dental Univ.

Seminar I

Clinical application of PRP for periodontal regeneration

Junichi Tatsumi

Dept. Oral Biology and Tissue Engin., Div. Periodontology, Meikai Univ. Sch. Dent.

Seminar II

The culture medium of mesenchymal stem cells

Hidekazu Takahashi

Tsuruga Institute of Biotechnology, TOYOBO Co.,LTD

Oral Presentation

01. Application of rhBMP-2/ FRIOS[®]Algipore[®] composite to direct pulp capping in rats
Toshiyuki Koike, Yuki Tatematsu, Keisuke Handa and Takashi Saito
Dept. Operative Dentistry and Endodontology, Sch. Dent., Health Sciences Univ.
Hokkaido
02. In vitro angiogenesis control by tensile strain
Takuya Matsumoto, Jun-Ichi Sasaki, Mohammad Hafiz Uddin, Taiji Sohmura
Osaka Univ. Div. of Biomaterials Sciences
03. Biodegradable soft tissue adhesive
S.-H.Hyon, N.Nakajima, H.Sugai, S.Tsutsumi
Institute for Frontier Medical Sciences, Kyoto Univ.

04. Application of laser-captured microscope to explore cementoblast-specific genes
Hisatomo Kondo, Yoshiko Tajiriaka, Teerasak Damrongrungruang, Shinji Kuroda, Yoshiro Takano, Masanaga Yamawaki, Hidehiro Mizusawa, Shoko Iseki, Kazuhiro Eto, Keiich Ohya, Shohei Kasugai
Oral Implantology and Regenerative Dental Medicine, Tokyo Medical and Dental Univ.
05. Osteoclast activity on carbonate apatite plates in cell cultures
Keiichi Kanayama¹, Mitsunobu Kitago¹, Masafumi Shiraki¹, Masanori Kashimata², Yutaka Doi³, Toshiaki Shibutani¹
¹Dept. Periodontology, ²Dept. Dental Pharmacology, ³Dept. Dental Materials Science, Asahi Univ. Sch. Dent.
06. Effects of osteopontin-derived peptide SVVYGLR on periodontal cells in vitro
Yoshitoshi Kaneda¹, Hiroshi Egusa¹, Yoshinosuke Hamada², Shunji Ashida¹, Munemasa Kobayashi¹, Hirohumi Yatani¹
¹Dept. Fixed Prosthodontics, Osaka Univ. Grad. Sch. Dent.
²Dept. Molecular Pathology, Osaka Univ. Grad. Sch. Med. and Health Sci.
07. Clinical application of “Mandibular Bone Mineral Density (BMD) Evaluation System,” developed for alveolar bone absorption prediction
Yoshitomo Takaishi^{1,2}, Takashi Ikee², Takami Miki³, Yoshiki Nisizawa³, Hirotooshi Morii⁴.
¹Takaishi Dental Clinic, ²Osaka Dental Univ., ³Osaka City Univ., ⁴Emeritus Prof., Osaka City Univ.
08. Multi-potent differentiation potential of human dental papilla mesenchymal cells
Etsuko Ikeda¹, Midori Kojima², Takahiro Yagyuu³, Yoshihiro Katsube¹, Mika Tadokoro¹, Hisashi Adachi¹, Yukiharu Yokota¹, Tadaaki Kirita³, Kiyohito Yagi², Hajime Ohgushi¹
¹ Research Institute for Cell Engineering (RICE), National Institute of Advanced Industrial Science and Technology (AIST), ²Graduate School of Pharmaceutical Sciences, Osaka Univ., ³Dept. Oral and Maxillofacial Surgery, Nara Medical Univ.
09. Development of the method for single cell-based bioengineered organogenesis
Kazuhisa Nakao^{1,2}, Ritsuko Morita^{1,2}, Kentaro Ishida^{1,2}, Yusuke Tomita^{1,2}, Miho Ogawa^{1,2}, Yasumitsu Saji^{1,2}, Masahiro Saito³, Takashi Tsuji^{1,2}
¹ Faculty of Industrial Science and Technology, Tokyo Univ. of Science
² Tissue Engineering Research Center, Tokyo Univ. of Science
³ Dept. Operative Dentistry and Endodontics, Kanagawa Dental College
10. Transplantation of a bioengineered tooth in oral cavity for the development of dental regenerative medicine
Yasumitsu Saji^{1,2}, Kazuhisa Nakao^{1,2}, Ritsuko Morita^{1,2}, Kentaro Ishida^{1,2}, Takashi Tsuji^{1,2}
¹ Faculty of Industrial Science and Technology, Tokyo Univ. of Science
² Tissue Engineering Research Center, Tokyo Univ. of Science

11. Reinforcement for softened root canal dentin using by nanometrical hydroxyapatite particles
Nobuyuki Kikuchi¹, Hideki Makimura¹, Hitoshi Sugiyama¹, Koh Kimura, Yasuhiro Tanimoto², Toru Hayakawa², Fumio Nagahama¹, Masahiro Kohno³, Moriyasu Wada¹
¹Dept. Renascent Dentistry, ²Dept. Dental Biomaterials, Nihon University Sch. Dent. at Matsudo, ³New Industry Creation Hatchery Center, Tohoku Univ.
12. Involvement of neurotrophin-4/5 in regeneration of the periodontal Ruffini endings at the early stage
Jabbar Shahiqui^{1,2}, Fumiko Harada^{1,2}, Megumi Oishi^{1,2}, Megumi Aita¹, Takeyasu Maeda¹
 Divisions of ¹Oral Anatomy and ²Orthodontics, Niigata Univ. Grad. Sch. Medical and Dental Sciences
13. Three dimensional analysis of bone formation in peri-implant tissue
Tetsunari Nishikawa¹, Kazuya Masuno¹, Ayako Kawanaka², Kazuya Tominaga¹, ¹Tomoaki Hida, ³Yasuhiro Tajime³, Keisuke Shimada⁴, Masayuki Tsunokuma⁴, Kenji Kakudo⁴, Kazuyo Yamamoto⁵, Akio Tanaka¹
¹Dept. Oral Pathology, ²Grad. Sch. Dent. (Pathology), ³Grad. Sch. Dent. (Oral and Maxillofacial Surgery), ⁴Second Dept. Oral and Maxillofacial Surgery, ⁵Dept. Operative Dentistry, Osaka Dental Univ.
14. Evaluation on effects of titanium micro particles and titanium ions on macrophage-like RAW264 cells
Masayuki Taira and Yoshima Araki
 Dept. of Dental Materials, Iwate Medical Univ. Sch. Dent.

Poster Presentation

- P01. Dentin/pulp complex response to direct pulp capping using a bioabsorbable material
Yoko Tashiro, Toshiyuki Itota, Ryo Takagi, Kozo Yamaji, Shunji Izawa, Yasuo Shinno, Masahiro Yoshiyama
 Dept. Operative Dentistry, Okayama Univ. Grad. Sch. Medicine, Dentistry and Pharmaceutical Science
- P02. Effects of capsaicin on rat dental-pulp-derived cells
Fumiko Aikawa
 Osaka Dental Univ., Dept. Oral Anatomy
- P03. Effects of cellulose oxide on human-dental-pulp-derived cells
Tomoharu Okamura
 Osaka Dental Univ., Dept. Oral Anatomy
- P04. Characterization of mouse dental papilla cells immortalized with HPV16 mutant
Takanori Tsubakimoto^{1,2}, Masahiro Saito^{1,2}, Eisaku Nishida^{1,2,3}, Kazutaka Kousaka^{1,2}, Makoto Aino^{1,2,3}, Wada Tomoko^{1,2,4}, Toshihide Noguchi³, Tsuji Takashi⁴, Toshio Teranaka^{1,2}
¹Dept. Oral Medicine, Division of Operative Dentistry and Endodontics, Kanagawa Dental College, ²Oral Health Science Research Center, ³Dept. Periodontology, Sch. Dent., Aichi-gakuin Univ., ⁴Dept. Biological Science and Technology, Faculty of Industrial Science and Technology, Tokyo Univ. of Science

- P05. Tooth reconstruction of clonal dental epithelial cell lines established from the molar tooth germ of a p53 deficient mouse
Akihiko Komine, Momoko Suenaga, Kazuhisa Nakao, Takashi Tuji, Yasuhiro Tomooka.
 Dept. Biological Science and Technology, Tissue Engineering Research Center, Tokyo Univ. of Science
- P06. Stabilishment and characterization of cell lines derived from the tongue epithelium of a p53-deficient mouse and application to the tooth regeneration
Chiharu Fukano, Taizo Imai, Kazuhisa Nakao, Takashi Tuji, Yasuhiro Tomooka
 Dept. Biological Science and Technology, Tissue Engineering Research Center, Tokyo Univ. of Science
- P07. Tooth reconstruction of clonal oral epithelial cell lines established from a p53 deficient fetal mouse
Chiho Takahashi, Kazuhisa Nakao, Takashi Tuji, Yasuhiro Tomooka
 Dept. Biological Science and Technology, Tissue Engineering Research Center, Tokyo Univ. of Science
- P08. Transplantation of cultivated autologous oral mucosal epithelial cells using amniotic membrane: A rabbit experiment
Takeshi Amemiya, Toshiro Yamamoto, Narisato Kanamura
 Dept. Dental Medicine, Grad. Sch. Med. Sci., Kyoto Prefectural Univ. of Medicine
- P09. Conforcal laser scanning microscopic observation of bone augmentation process at an experimental bone defect placed implants with different surface applied PRP Comparison of machine surface implants and laugh surface -
Tsunokuma, M.¹, Tajime, Y.¹, Kubota, R.¹, Shimada, K.¹, Masuno, K.², Nishikawa, T.², Tanaka, A.², Kakudo, K.¹
¹Second Dept. Oral and Maxillofacial Surgery Osaka Dental Univ., ²Dept. Oral Pathology Osaka Dental Univ.
- P10. α -TCP with BMP-2 gene and CaP induce ectopic bone formation
Mitsumasa Oda, Hisatomo Kondo, Shinji Kuroda, Shohei Kasugai
 Oral Implantology and Regenerative Dental Medicine, Tokyo Medical and Dental Univ.
- P11. Expansion of osteoblasts with 3-D culture using radial-flow bioreactor
Masao Yoshinari, Taichi Arano, Kenichi Matsuzaka, Takashi Inoue, Yutaka Oda
 Oral Health Science Center HRC7 and Dept. Dental Materials Science, Tokyo Dental College
- P12. The role of protein kinase to wound healing on osteoblast cells
Eisuke Domae, Seiji Goda, Takashi Ikee
 Grad. Sch. Dent., Dept. Biochemistry, Osaka Dental Univ.
- P13. Effect of sphingomyelins on the differentiation of osteoclast
Osamu Takeuchi¹, Seiji Goda², Eisuke Domae², Yumiko Ogawa³ Ryousuke Yoshikado³, Yoshihiro Yoshikawa², Kazushi Yoshikawa¹, Syousuke Morita³, Kazuyo Yamamoto¹ and Takashi Ikee²
 Depts of ¹Operative Dentistry, ²Biochemistry and First Dept. Oral and Maxillofacial Surgery, Osaka Dental Univ.

- P14. Examination of CPC/chitosan compound for bone regeneration
Yingzhe Li, Akiyosi Sugawara, Sadami Tsutsumi
 Institute for Frontier Medical Sciences, Kyoto Univ.
- P15. Study on implantation of combined recombinant human BMP-2 and Alginic acid gel *in vivo*
Kozo Yamaji¹, Toshiyuki Itota¹, Shunji Izawa¹, Yoshihiro Nishitani¹, Masamori Nomoto¹, Junichi Yamauchi² and Masahiro Yoshiyama¹
¹Dept. Operative Dentistry, Okayama Univ. Grad. Sch. Med. Dent. and Pharm. Sci., ²Kuraray Medical Inc.
- P16. Development of injectable -TCP beads /alginate composites
Yoshiya Hashimoto¹, Tomonori Matsuno², Seita Adachi¹, Yasuyuki Ozeki³, Yoshikazu Umezu³, Tazuko Satoh² And Masaaki Nakamura¹
¹Dept. Biomaterials, Osaka Dental Univ., ²Dept. Oral and Maxillofacial Surgery, The Nippon Dental Univ., Sch. Life Dentistry at Tokyo, ³New Material Science Laboratory, ADAVANCE CO., LTD
- P 17. Engineering biomimetic skeletal muscle tissue using oriented hydrogel
Takuya Matsumoto, Jun-Ichi Sasaki, Mohammad Hafiz Uddin, Taiji Sohmura
 Osaka Univ. Div. of Biomaterials Sciences
- P 18. Reconstruction of a tissue-engineered skin containing melanocytes
Akimichi Takemura¹, Yuan Liu², Yan Jin², Fumihiko Suwa¹
¹Dept. Anatomy, Osaka Dental Univ., ²Dept. Histology and Pathology, Fourth Military Medical Univ., China
- P 19. Influence of Zn and Cu ion combinations on *in vitro* formation of tubule-like structures
Koichi Imai and Masaaki Nakamura
 Dept. Biomaterials, Osaka Dental Univ.