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 Kanayama[1],Mitsunobu Kitago[1], Masafumi Shiraki[1], Masanori Kashimata[2], Yutaka Doi[3],Toshiaki Shibutani[1]
[1]Dept. Periodontology, [2]Dept. Dental Pharmacology, [3]Dept. Dental Materials Science, Asahi Univ. Sch. Dent.

06. Effects of osteopontin-derived peptide SVVYGLR on periodontal cells in vitro
Yoshitoshi Kaneda[1], Hiroshi Egusa[1], Yoshinosuke Hamada[2], Shunji Ashida[1], Munemasa Kobayashi[1], Hirohumi Yatani[1]
[1]Dept. Fixed Prosthodontics, Osaka Univ. Grad. Sch. Dent.
[2]Dept. 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 Ikeo[2] Takami Miki[3],Yoshiki Nisizawa[3], Hirotoshi Morii[4].
[1]Takaishi Dental Clinic, [2]Osaka Dental Univ., [3]Osaka City Univ.,[4]Emeritus Prof., Osaka City Univ.

08. Multi-potent differentiation potential of human dental papilla mesenchymal cells
Etsuko Ikeda[1], Midori Kojima[2], Takahiro Yagyuu[3], Yoshihiro Katsube[1], Mika Tadokoro[1], Hisashi Adachi[1], Yukiharu Yokota[1], Tadaaki Kirita[3], Kiyohito Yagi[2], Hajime Ohgushi[1]
[1] Research Institute for Cell Engineering (RICE), National Institute of Advanced Industrial Science and Technology (AIST), [2]Graduate School of Pharmaceutical Sciences, Osaka Univ., [3]Dept. 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 Saito[3], 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 Kikuchi[1], Hideki Makimura[1], Hitoshi Sugiyama[1], Koh Kimura, Yasuhiro Tanimoto[2], Toru Hayakawa[2], Fumio Nagahama[1], Masahiro Kohno[3], Moriyasu Wada[1]
[1]Dept. Renascent Dentistry, [2]Dept. Dental Biomaterials, Nihon Univerisity Sch. Dent. at Matsudo, [3]New Industry Creation Hatchery Center, Tohoku Univ.

12. Involvement of neurotrophin-4/5 in regeneration of the periodontal Ruffini endings at the early stage
Jabbar Shahiqul[1,2], Fumiko Harada[1,2], Megumi Oishi[1,2], Megumi Aita[1], Takeyasu Maeda[1]
Divisions of [1]Oral Anatomy and [2]Orthodontics, Niigata Univ. Grad. Sch. Medical and Dental Sciences

13. Three dimensional analysis of bone formation in peri-implant tissue
Tetsunari Nishikawa[1], Kazuya Masuno[1], Ayako Kawanaka[2], Kazuya Tominaga[1], [1]Tomoaki Hida, [3]Yasuhiro Tajime[3], Keisuke Shimada[4], Masayuki Tsunokuma[4], Kenji Kakudo[4], Kazuyo Yamamoto[5], Akio Tanaka[1]
[1]Dept. Oral Pathology, [2]Grad. Sch. Dent. (Pathology), [3]Grad. Sch. Dent. (Oral and Maxillofacial Surgery), [4]Second Dept. Oral and Maxillofacial Surgery, [5]Dept. 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 Noguchi[3], Tsuji Takashi[4], Toshio Teranaka[1,2]
[1]Dept. Oral Medicine, Division of Operative Dentistry and Endodontics, Kanagawa Dental College, [2]Oral Health Science Research Center, [3]Dept. Periodontology, Sch. Dent., Aichi-gakuin Univ., [4]Dept. 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. Stablisiment 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]
[1]Second Dept. Oral and Maxillofacial Surgery Osaka Dental Univ., [2]Dept. 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 Ikeo
Grad. Sch. Dent., Dept. Biochemistry, Osaka Dental Univ.

P13. Effect of sphingomyelins on the differentiation of osteoclast
Osamu Takeuchi[1], Seiji Goda[2], Eisuke Domae[2], Yumiko Ogawa[3] Ryousuke Yoshikado[3], Yoshihiro Yoshikawa[2,] Kazushi Yoshikawa[1], Syousuke Morita[3], Kazuyo Yamamoto[1]and Takashi Ikeo[2]
Depts of [1]Operative Dentistry, [2]Biochemistry 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 Yamaji[1], Toshiyuki Itota[1], Shunji Izawa[1], Yoshihiro Nishitani[1], Masamori Nomoto[1], Junichi Yamauchi[2] and Masahiro Yoshiyama[1]
[1]Dept. Operative Dentistry, Okayama Univ. Grad. Sch. Med. Dent. and Pharm. Sci., [2]Kuraray Medical Inc.

P16. Development of injectable β-TCP beads /alginate composites
Yoshiya Hashimoto[1],Tomonori Matsuno[2], Seita Adachi[1], Yasuyuki Ozeki[3],Yoshikazu Umezu[3], Tazuko Satoh[2] And Masaaki Nakamura[1]
[1]Dept. Biomaterials, Osaka Dental Univ., [2]Dept. Oral and Maxillofacial Surgery, The Nippon Dental Univ., Sch. Life Dentistry at Tokyo, [3]New 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 Takemura[1], Yuan Liu[2], Yan Jin[2], Fumihiko Suwa[1]
[1]Dept. Anatomy, Osaka Dental Univ., [2]Dept. 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.