

Pharmacology

1. Staffs and Students(April, 2010)

Professor	Keiichi OHYA
Associate Professor	Kazuhiro AOKI
Assistant Professor	Yukihiko TAMURA
Technologist	Mariko TAKAHASHI
Foreign Researcher(JSPS)	SOYSA Hennadige Niroshani Surangika
Graduate Student	Kenichi NAGANO, Hiroyuki NAKACHI(Maxillofacial Surgery), Naoki HAYASHI(Dentistry for Persons with Disabilities), Toshimi SATO, Kengo FUJIKI(Removable Prosthodontics), KHAN Md. Abdulla Al Masud

2. Purpose of Education

Pharmacology is situated between the basic and clinical sciences and is important for dental students. There is a growing demand on the dental clinicians to know huge knowledge of drugs and how to use them for patients. For these purpose, the first lecture is aimed to teach the scientific aspects of pharmacology and how drugs act on the various body system. The second lecture deals with drugs of medical and dental fields and the last with drugs of special importance of dentistry. Dental students learn the principle of pharmacology through laboratory practice. Following these learning, they must acquire an adequate background for drug use in general practice.

3. Research Subjects

- 1) Pharmacological analysis of the formation and resorption mechanisms of teeth and bone
- 2) Drug effects on the differentiation of the cells that participate formation and resorption process of the hard tissues
- 3) Identification of the new drug targets for hard tissue diseases
- 4) Translational research for the hard tissue regeneration
- 5) Analysis of side effects of the drug that appear in oral tissues

4. Publications

Original Article

1. Niroshani S, Alles N, Weih D, Lovas A, Hussain A, Shimokawa H, Yasuda H, Weih F, Jimi E, Ohya K, Aoki K. The Pivotal Role of the Alternative NF- κ B Pathway in Maintenance of Basal Bone Homeostasis and Osteoclastogenesis. *J Bone and Mineral Research*, Vol.25(4), pp809-818, 2010
2. Nakalekha C, Yokoyama C, Miura H, Alles N, Aoki K, Ohya K, Morita I. Increased bone mass in adult prostacyclin-deficient mice. *J Endocrinology*, Vol.204, pp125-133, 2010
3. Inokuchi T, Kawamoto T, Aoki K, Aoki A, Nagahama K, Baba Y, Suzuki S, Shibayama , Mano Y, Ohya K, Moriyama K. The Effects of Hyperbaric Oxygen on Tooth Movement Into the Regenerated Area After Distraction Osteogenesis. *The Cleft Palate-Craniofacial J*, Vol.47(4), pp382-392, July 2010
4. Aoki A, Moriyama K, Kawamoto T, Aoki K, Inokuchi T, Kudoh A, Nagahama K, Baba Y, Suzuki S, Ohya K. Amount of bone lengthening affects blood flow recovery and bone mineralization after distraction osteogenesis in a canine cleft palate model. *The Cleft Palate-Craniofacial J*, Vol.47(3), pp303-313, May 2010
5. Maruyama T, Fukushima H, Nakao K, Shin M, Yasuda H, Weih F, Doi T, Aoki K, Alles N, Ohya K, Hosokawa R, Jimi E. Processing of the NF- κ B2 Precursor p100 to p52 Is Critical for RANKL-Induced Osteoclast Differentiation. *J Bone and Mineral Research*, Vol.25(5), pp1058-1067, May 2010
6. Alles N, Niroshani S, Hayashi J, Khan M, Shimoda A, Shimokawa H, Ritzeler O, Akiyoshi K, Aoki K, Ohya K. Suppression of NF- κ B Increase Bone Formation and Ameliorates Osteopenia in Ovariectomized Mice., *Endocrinology*, Vol.51(10), pp4626-4634, October 2010
7. Okamoto K, Iwai Y, Oh-hara M, Yamamoto M, Morio T, Aoki K, Ohya K, Jetten A.M, Akira S, Muta T, Takayanagi H. κ B ζ regulates TH17 development by cooperating with ROR nuclear receptors. *Nature*. Vol.464, pp1381-1385, 29 April 2010
8. Higuchi Y, Kabasawa Y, Sato M, Kikuchi T, Aoki K, Ohya K, Maruoka Y, Omura K. Effect of recombinant human

fibroblast growth factor-2 on bone formation in rabbit mandibular distraction models using beta-tricalcium phosphate. *Congenit Anom (Kyoto)*, Vol. 50, pp95-104, 2010.

9. Aoki K, The effects of NF- κ B Inhibitors on Bone Formation. *J. Oral Biosci*, Vol.52(4), pp303-310, 2010