

**PEDIATRIC DENTAL JOURNAL** International Journal of  
Japanese Society of Pediatric Dentistry  
The Japanese Society of Pediatric Dentistry

Available Issues | Japanese >> Publisher Site

Author:  Keyword:  Search **ADVANCED**



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1880-3997

PRINT ISSN : 0917-2394

## Pediatric Dental Journal

Vol. 16 (2006) , No. 2 pp.132-137



[\[PDF \(771K\)\]](#) [\[References\]](#)

### Micro-CT observation of rat dental pulp healing after pulpotomy in *in vivo* study

Naoto Osuga<sup>1)2)</sup>, Jing Yang<sup>3)</sup>, Yoko Yamakawa<sup>4)</sup>, Tadashi Ninomiya<sup>3)</sup>, Yoshinori Arai<sup>3)</sup>, Wang Raorao<sup>1)</sup>, Hiroshi Iwasaki<sup>1)2)</sup> and Hiroo Miyazawa<sup>1)2)</sup>

- 1) Department of Pediatric Dentistry, Matsumoto Dental University
- 2) Department of Oral Health Promotion, Matsumoto Dental University
- 3) Department of Hard Tissue Research, Matsumoto Dental University
- 4) Yamakawa Dental Clinic

(Received on January 16, 2006)

(Accepted on June 20, 2006)

**Abstract** We report the newly developed Micro-CT, which allows us to observe the individual animal over a long experimental period and to compare changes in pulp tissue in relation to growth and aging without considering individual differences. Further, we used pathological examination to prove similar the result observing from Micro-CT. We have examined wound healing of teeth after pulpotomy in rats, and could clearly observe histopathological changes in the affected teeth and the absorption of temporary filling material and pulp capping agents. In cases with breakage of the dental crown, the CT images agreed with the pathological observations, and it was possible to estimate the time of breakage. *In vivo* Micro-CT is possible to apply in continuous recording of small experimental animals, such as rats, under anesthesia and the result is sufficiently high. High-quality image was obtained in of the entire head region of the rat. It was suggested that this method can be used for long-term continuous observation of changes in the teeth conditions after pulpotomy in experimental animals. We report the newly developed Micro-CT, which allows us to observe the individual animal over a long experimental period and to compare changes in pulp tissue in relation to growth and aging without considering individual differences.

**Key words** Calcium hydroxide, Formocresol, Micro-CT, Pulp tissue, Pulpotomy



[\[PDF \(771K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Naoto Osuga, Jing Yang, Yoko Yamakawa, Tadashi Ninomiya, Yoshinori Arai, Wang Raorao, Hiroshi Iwasaki and Hiroo Miyazawa: Micro-CT observation of rat dental pulp healing after pulpotomy in *in vivo* study . *Ped Dent J* **16**: 132-137, 2006 .

---

JOI JST.JSTAGE/pdj/16.132

Copyright (c) 2006 by The Japanese Society of Pediatric Dentistry

---



---

[Japan Science and Technology Information Aggregator, Electronic](#)

