Oral Presentation II

Chairman: Seung-Jong Lee (Yonsei University) 13:30-15:00 Seminar Room 1

♦O7

Scanning Electron Microscope Observations in the Apices of Roots with Refractory Apical Periodontitis.

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The aim of this study was to examine the localization of bacteria in the apices of roots with refractory apical periodontitis by a scanning electron micrscopy (SEM), and to identify the extra-radical bacteria using a immunohistological method. Eleven teeth were prepared for immunostaining and 4 for SEM. Immunostaining was performed with LSAB method and specific antisera against 18 bacteria selected for this study. Specimens for SEM observations were dried using a t-butyl alcohol freeze dryer and coated with gold-palladium. We detected coccoid and rod-shaped bacteria aggregated in the extra-radical area surrounding the apical foramen by SEM. Immunohistological study revealed that these bacteria were *L. plantarum*, *S. mutans*, *L. casei*, *P. gingivalis*, and *P. nigrescent*. On the other hand, *A. viscosus*, *E. alactolyticum*, *E. faecalis*, *P. endodotalis*, *F. nucleatum*, and *T. denticola* were not detected. These results indicate that one of the causes of refractory apical periodontitis would be the extra-radical bacteria remaining after root canal treatment.

♦O8

Immunohistochemical study on the distribution of ion channels in rat trigeminal sensory nucleus.

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Trigeminal sensory nerves relay mechanical, thermal, chemical and proprioceptive information from craniofacial region. Therefore, it is important of dentistry. Trigeminal sensory nucleus consists of principal sensory trigeminal nucleus, spinal trigeminal nuclei, mesencephalic trigeminal nucleus. Transmission of these sensation depends on function and distribution of ion channels. Several types of ion channels have been demonstrated using a combination of microelectrode current clamp patch voltage clamp, immunocytochemical technique. The purpose of this study was to examine the distribution of ion channels in rat trigeminal sensory nucleus using immunohistochemical technique.

Experiments were performed : immunohistochemistry

1. brain slide preparation(isolated from neonatal Sprague-Dawley rat)
2. fixed with 4% paraforaldehyde during at 4℃, 24hrs, coronal section(40㎛ thickness)
3. incubated with a 1:100 dilution of primary antibody at 4℃ during 24hrs
4. 1:100 dilution of secondary antibody, examined using fluorescence microscopy

The results were as follows:

	N	P & Q	R	BKca	Kv 4.2	Kir 2.1
Spinal trigeminal nuclei	upper:++ lower:++	upper:+	upper::	upper:±	middle:+ most upper:+	most upper:+
Principal sensory trigeminal nucleus		±		--		++

These results show that principal trigeminal sensory nucleus and spinal trigeminal nuclei are presented Ca^{2+} channels(N, P&Q, R-type) and K^{+} channel(BKca, Kv4.2, Kir2.1). According to distinct channel types and location of brain region, immunoreactivity expressed variously.