

## Dental tubule characteristics on bucco-and linguo-cervical area of human upper premolars

\*Teerakiatkamjorn K., \*Ruangroj B., Poolthong S. Department of Operative Dentistry

This study was conducted to compare dental tubule characteristics on cervical area (buccal and lingual) of human upper first premolars. Three different areas were observed; near pulp wall, middle point of dentin and near DEJ. Ten tooth crowns (17-25) were bucco-lingually sectioned to expose dentin. The second cut was done perpendicular to the first cut surface and parallel to the pulp wall. Ten pairs of cut specimens (started from the pulp wall) were polished to obtain three measured distances using silicon carbide abrasive paper and finished with 0.05  $\mu\text{m}$  alumina abrasive powder. The photomicrographs of polished surfaces were captured through light microscope (500X). The number, mean area and diameter of cross-sectioned tubules were measured using Image Pro-Plus 4.5.1 (Media Cybernetics, Inc., USA). Result were shown in Table below.

	Buccal side	near DEJ	middle	near pulp	near pulp	middle	near DEJ
Lingual side							
Mean diameter	2.88 $\pm$ 0.33	3.56 $\pm$ 0.45	4.02 $\pm$ 0.61	4.51 $\pm$ 0.62	3.74 $\pm$ 0.55	2.88 $\pm$ 0.44	
Tubule area ratio	0.11 $\pm$ 0.03	0.21 $\pm$ 0.05	0.35 $\pm$ 0.10	0.44 $\pm$ 0.21	0.25 $\pm$ 0.10	0.11 $\pm$ 0.04	
Statistical analysis (paired t-test and one way ANOVA) showed no significant difference ( $p>0.05$ ) of mean tubule diameter and area ratio between buccal and lingual sides of three different distances measured, while significant difference ( $p<0.05$ ) was found among the three different distances of both buccal and lingual sides.							

Supported by Dental Research Fund, Dental research project 3205-312 # 34 / 2002 Faculty of Dentistry, Chulalongkorn University