

T. V. Papruzhenka, E. V. Yushkevich. **A second canal in medial-buccal roots in the permanent maxillary second molars during their post-eruptive maturation**
// International Journal of Paediatric Dentistry, 2021, Volume 31, Issue S2, P. 272.

A second canal in medial-buccal roots in the permanent maxillary second molars during their post-eruptive maturation

Tatsiana Papruzhenka¹, Ekaterina Yushkevich¹

Department of Children's Dentistry, Belarusian State Medical University, Minsk, Belarus

Background: The study examined the occurrence of a second buccal canal (MB2) in teeth 17, 27 (M2) during their post-eruptive maturation.

Methods: The study inspected 160 archival CBCT images (Galileos CBCT, Sirona Dental Systems Inc., Germany; voxel size 0.25 /0.125 mm; Sidexis 4 software) of intact M2 teeth in 80 patients aged 12.0 to 15.9 years. In each one-year age group, cross-sectional images of 40 medial-buccal roots were studied in the cervical, middle and apical third. Pearson's test (χ^2) was used for statistical analysis.

Results: Canal MB2 was detected in 58.2% of root images (from 52% in 13 y.o. to 65% in 15 y.o., $p < 0.05$). MB2 canal coincided with the root length in 18.1 % of images; was at the cervical level, but then not everywhere – in 24.1% of images; was only at the middle and / or apical levels of the root – in 16.0% of images. No differences in age groups observed ($p = 0.4$). The symmetry of the presence / absence of MB2 canal in teeth 17 and 27 was observed in 82% of patients.

Conclusions: X-ray indications of MB2 are found in 58.2% of M2 (including in 18.1% of teeth with marks of MB2 throughout the root) in teenagers, which is close to the corresponding data in adults. Contrary to the well-known assumption about post-eruptive MB2 formation, the frequency of detection for MB2 indicators remains constant during the period of active post-eruptive maturation of M2 roots.