

*Original article*

# Morphological Variations of the Cemento-Enamel Junction in Permanent Dentition

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## SUMMARY

Cemento-enamel junction (CEJ) is an important anatomical structure of the tooth, which is located in the cervical part of the tooth between the crown and root, or at the contact point between the enamel which overlaps the tooth crown and cementum overlapping the root dentin.

There are four possible relationships between two tissues that make the CEJ such as: the cement overlaps the enamel; the enamel overlaps the cement; the enamel and cement abut each other with no overlap; the enamel and cement are not in contact. The aim of this study was to determine the relationship between the enamel and cement which make the CEJ in different types of permanent teeth.

The material consisted of 30 permanent teeth with intact CEJ. Staining of CEJ was carried out using the methylene blue. After staining, the tooth was washed under the running water and drying at room temperature. Each tooth was longitudinally cut in the vestibular-oral direction. Observation of CEJ was done with Leica light microscope and images were obtained using a Nikon camera.

The results indicated that the most common form of CEJ between the cement and enamel in the region of CEJ was that cement and enamel abutted without overlap (36.7%), followed by the cement overlapping the enamel (33.3%), and the cases when a gap between the cement and enamel (16.7%) was present, and when the enamel overlapped the cement (13.3%).

Because of the morphological diversity of CEJ, careful performing of dental interventions in the region of tooth neck is necessary because they may change the morphology of this region, induce the pathological processes and hypersensitivity of teeth.

*Key words:* cemento-enamel junction, cement, enamel

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