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Root resorption of maxillary primary incisors in relation to position of successive permanent incisors by Micro-CT

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Abstract The aim of this study is to elucidate the root resorption of primary incisors in relation to the development of permanent incisors. We observed the maxillas of the dry skulls of Indian children, using Micro-CT, and measured distance between the root surface of the primary incisor and the bony crypt of the permanent incisor. The bony crypt of the maxillary permanent incisor, which was situated at the lingual side of the primary incisor, grew upward towards the mouth as the tooth eruption stage proceeded. Root resorption was clearly seen at the primary dentition stage, and it proceeded to from root surface towards root canal at the first molar eruption. With the advance of the stage, the distance between the root surface of the primary incisor and the bony crypt of the permanent incisor became shorter, especially the distance between the root of the primary lateral incisor and the bony crypt of the permanent central incisor did. By using Micro-CT, we could confirm more clearly that the growth of the bony crypt of the central permanent incisor deeply influence the progress of root resorption of the primary lateral incisor.

Key words Bony crypt, Dry skulls of Indian children, Maxillary primary incisors, Micro-CT, Root resorption

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