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Simplified technique for easy extraction of impacted supernumerary teeth using guided surgery

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Most impacted mesiodens can affect the growth and development of adjacent permanent teeth. They are usually located in intraosseous position associated with complicated anatomical structures. Therefore, surgical approaches necessitate minimally-invasive surgery. We demonstrate a simple customized surgical stent for extraction of impacted mesiodens. A 9-year-old girl visited our clinic with chief complaint of impacted mesiodens. Panoramic radiograph revealed two impacted conical-type mesiodens with inverted orientation. To determine the precise locations of the mesiodens, a radiographic stent, which consisted of individualized vacuum-formed splint (Pro-form®; Keystone industries, Singen, Germany) and three gutta-percha cones was fabricated. After the radiographic stent was delivered, CBCT images were obtained. The CBCT data were imported to Adobe Photoshop CS (San Jose, CA, USA). And the axial images of gutta-percha cones and impacted mesiodens were superimposed to measure distances from the mesiodens to each gutta-percha cone. The predetermined positions of mesiodens were transferred onto the radiographic stent. After seating the stent onto the study model, drillings was placed along the predetermined positions. Orientations of drilling were designed to avoid damages to the roots of adjacent permanent incisors and to guide direct access to impacted mesiodens. Chemically cured clear resin (Vertex Orthoplast; Vertex Dental, Zeist, The Netherlands) was poured onto the stent and trimmed. After a full positioned flap was elevated carefully under general anesthesia, surgical stent was seated to position pilot drilling precisely. After the window opening was enlarged sufficiently, the mesiodens were removed gently. The patient became asymptomatic and the surgical wound healed postoperatively.

Biography

Yea Rang Oh is a Resident in Department of Pediatric Dentistry at Kyung Hee University Dental Hospital, South Korea. She completed her Graduation in Department of Biotechnology at Korea University, South Korea; MSD degree at Kyung Hee University and; internship program at Kyung Hee University Dental Hospital, South Korea.

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