Restoration of Structurally Compromised Endodontically Treated Posterior Teeth with Endocrowns

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The clinical success of endodontically treated teeth (ETT) depends on the quality of the endodontic treatment and the coronal restoration. Appropriate restoration techniques and materials prevent fracture of the ETT, supporting the remaining dental hard tissues and preventing coronal leakage allowing the tooth to function against the chewing forces. However, the restoration of structurally compromised ETT remains a clinical challenge as their biomechanical deterioration impacts the tooth's long-term prognosis. The most commonly used restoration for these teeth still involves post-core systems with crown restorations. Hence post systems only increase the retention of the coronal restoration and, unfortunately, increase the risk of root fractures. With the developments in adhesive dentistry, various restorative materials, and a better understanding of the biomechanics of the teeth, the restoration concept of structurally compromised ETT posterior teeth has changed. Endocrown restorations have become a reliable alternative to post-retained restorations for molars and seemed promising for premolars. Based on clinical trials, evidence-based dentistry results, and clinical cases, this presentation will discuss indications, preparation designs, adhesive luting procedures, and the success of posterior endocrown restorations fabricated from various restorative materials.

<Biography>

She graduated from Istanbul University Faculty of Dentistry in 1994 with DDS and received her Ph.D. degree in the Department of Operative Dentistry at the same university in 1999. Since 2000, she has been working at Yeditepe University Faculty of Dentistry in Istanbul and her current position is the Head of the Restorative Department. She worked as a visiting researcher at Tokyo Medical and Dental School and University of Pennsylvania School of Dentistry. She served as a board member of the Continental European Division of IADR (CED IADR) between 2012-2017 and as the president of the CED IADR between 2014-2016. Since 2017, she has been serving as the President of the Turkish Society of Restorative Dentistry.

She took part in the scientific committees of many national and international congresses and served as the congress president. She has many national and international scientific publications on adhesive dentistry and dental materials, co-authored of chapters in books on Restorative Dentistry, speaker in national and international meetings and organizes hands-on courses on porcelain veneers, restoration of endodontically treated teeth, and direct-indirect posterior adhesive restorations. She is a member of IADR, Academy of Dental Materials, Turkish Society of Restorative Dentistry and European Federation of Conservative Dentistry.