Outcome of Vital Pulp Therapy in Permanent Teeth with Carious Pulp Exposure: A Series of Successfully Treated Teeth

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Background: In modern Endodontic practice, vital pulp therapy (VPT) has been introduced as a biologically based modality of minimally invasive treatment. It encompasses diverse treatment modalities for deep carious lesions that approximate the pulp in vital teeth. The aim of these procedures is to preserve a healthy pulpal tissue with sustained vitality by eradicating bacteria from dentin-pulp complex and preventing apical periodontitis.

Objective: To prospectively investigate the clinical and radiographic short and intermediate success rates of pulpotomy in permanent teeth with various pulpal clinical diagnosis using different bioactive endodontic cements (BECs).

Setting: Ahmed Ali Kanoo Heath Center, Bahrain.

Design: Prospective study.

Method: Eleven patients were included of both categories (mature n=3 and immature n=8 roots) with established preoperative pulpal diagnosis for irreversible (n=8)/reversible pulpitis (n=3). All teeth received pulpotomy and capping cariously exposed vital pulp with hydraulic BECs (mineral trioxide aggregate (MTA) n=9, Bioceramic n=2). Assessment of clinical and radiographic outcomes done on a schedule set at 3, 6, 12, 24 months and annually thereafter.

Result: The recall rate ranged initially from 81% at 3 months to 100 % thereafter, with overall 100% clinical and radiographic successful outcomes at different recall intervals. One case presented after 24 months with a resolution of the periapical radiolucency, and shared signs of canals narrowing with other one.

Conclusion: Pulpotomy using BECs was a viable treatment option for cariously exposed pulp chamber in selected cases. Clinical signs of irreversible pulpitis together with the existence of radiographic periapical radiolucency should not be excluded from VPT procedures.

Bahrain Med Bull 2021; 43 (1): 361 - 366