Lithium Disilicate Single Retainer RBFDP For the Replacement of Congenitally Missing Premolar

EINAT VARON-SHAHAR

Department of Prosthodontics, Faculty of Dentistry, The Hebrew University of Jerusalem, Jerusalem, Israel

Objectives

This clinical case presents the protocol and follow-up outcomes of a posterior Resin-bonded fixed partial denture (RBFPD) with a single-retainer design made of Lithium disilicate for the replacement of a congenitally missing premolar in a young adult.

Materials and Methods

An 18-year-old woman presented an aesthetic complaint due to a congenitally missing premolar. Bone and soft-tissue deficiencies were present, and the patient was reluctant to perform any surgical procedure to replace the missing tooth.

A minimal invasive preparation was performed in a single adjacent tooth strictly within the enamel. A Lithium disilicate (IPS E.max, Ivoclar, Vivadent) single wing RBFPD was produced and luted with resin cement (G-cem link force, GC).

Minimal preparation in the enamel surface

CAD-CAM restoration IPS E.max

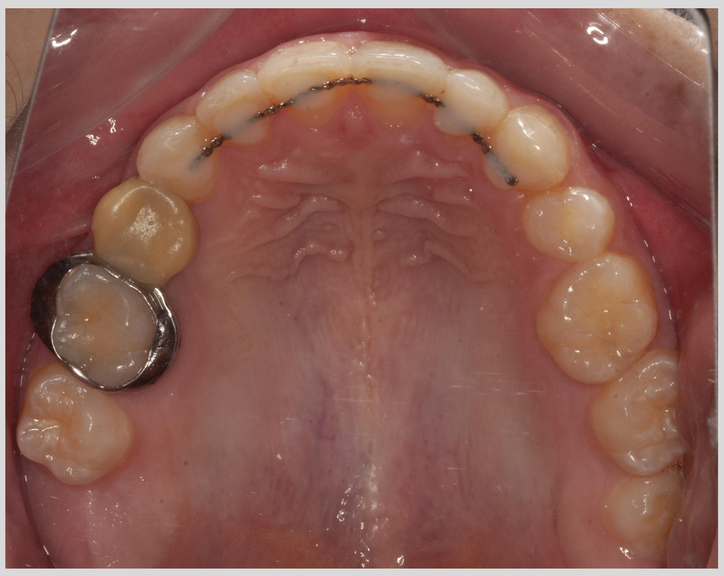
Palatal view after cementation

Buccal view after cementation

Results

A follow up of 24 months showed success and survival without debonding or signs of fractures to the restoration.

Pre- treatment upper arch



Post-treatment upper arch

Conclusions

This design of a Single retainer posterior RBFPD made from Lithium disilicate exhibits promising durability and retention. A single retainer posterior RBFPD should be considered as a minimal invasive alternative for a dental implant in the posterior dentition in young adult, and as a conservative treatment involving only a single adjacent tooth compared to double retainer RBFDPs.

References:

1. Becker M. et al Fifteen –year outcome of posterior all ceramic inlay retained fixed dental prostheses. 2019 *Journal of Dentistry*
2. Wolfart S. & Kern M. A new design for all ceramic inlay retained fixed partial dentures: A report of 2 cases. 2006 Quintessence int.
3. Tagami A. et al Retention of posterior resin bonded fixed dental prostheses with different designs after chewing simulation. 2021 *Journal of the mechanical behavior of biomedical materials*.

Contact us: Einat.varon@mail.huji.ac.il, The Hebrew university- Hadassah P.O. Box 12272, Jerusalem, Israel. Tel: 972-54-2473437.