Management of Dental Fluorosis by Minimally Invasive Resin Infiltration Technique: A Case Report

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Clinical Image

Dental fluorosis is a condition of enamel hypomineralization because of the effects of excessive fluoride on ameloblasts during enamel formation [1-3]. The prime reason for a dental visit of such patients is compromised esthetics due to fluoride induced stains and hypoplasia. Several techniques have been proposed to improve the appearance of tooth stains (Figure 1). Teeth discolored by fluorosis or hypoplasia may be managed by performing enamel bleaching, microabrasion, placement of veneers, or artificial crowns and resin infiltration (Figure 2). The choice among these treatments depends on the severity of the disease [4]. Resin infiltration technique is a novel technology providing an intermediary treatment option between prevention and restorative therapy [5]. The concept of caries infiltration was first developed at the Charité Berlin and the University of Kiel as a micro-invasive approach for the management of smooth surface and proximal non-cavitated caries lesions (Figure 3). It is marketed under the name Icon* (DMG America Company, Englewood, NJ) [6]. The principal of resin infiltration is to perfuse the porous enamel with resin by capillary action (Figure 4).

Figure 1: Pre-treatment: front view.

Figure 2: Application of rubber dam followed by ICON etchant application.

Figure 3: Application of drying agent.

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The present case describes a minimally invasive technique of resin infiltration as a treatment modality for moderate fluorosis along with filling of residual enamel defects by microfilled composite to improve the overall esthetic appearance of dentition (Figure 5).

References