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ETIOLOGY, PATHOGENESIS, DIAGNOSIS AND TREATMENT OPTIONS OF ABFRACTION LESIONS

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INTRODUCTION

Abfraction lesions are noncarious cervical lesions that affect structural integrity, retention of dental plaque, tooth sensitivity, pulpal vitality and esthetics. The pathogenesis of NCCLs is considered to be multifactorial, with occlusal loading, biocorrosion in combination with cervical stress stemming from hyperfunctional or parafunctional occlusal forces, acting synergistically rather than in isolation. The way in which abfraction lesions are restored and managed depends on the etiology and risk factors.

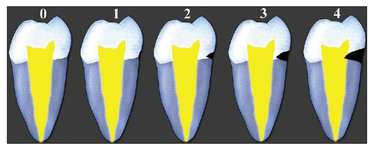

Fig.1 Tooth Wear Index proposed by Smith and Knight. 0 = no change in contour; 1 = minimal loss of contour; 2 = defect < 1 mm deep; 3 = defect 1 mm to 2 mm deep; 4 = defect > 2 mm deep, or pulp exposure, or exposure of secondary dentin.

MATERIAL AND METHODS

9 patients, 6 men and 3 women, between the ages of 26-63, were questioned and examined. The diagnosis of abfractions lesions was established according to careful history taking and proper clinical examination.

RESULTS

From 9 patients examined , 3 (33,3 %) patients presented generalized abfraction lesions with the association with chronic marginal generalized periodontitis and 6 (67,7%) patients with localized abfraction lesions, from them 2 patients (33,3%) with unidental edentations and 4 patients (67,7%) with occlusal interferences.
6 patients with localized lesions presented the involvement of 13 teeth. From these teeth 10 (76,9 %) were premolars (4 upper and 6 lower), 3 (23,1 %) incisors (2 central lower and 1 lateral lower). As restorative treatment,
4 patients received microfilled composite resin materials, 4 – nanohybrid composite resin materials, 1 - glass ionomer ciment.

PURPOSE

To establish the therapeutical treatment strategy of abfraction lesions.

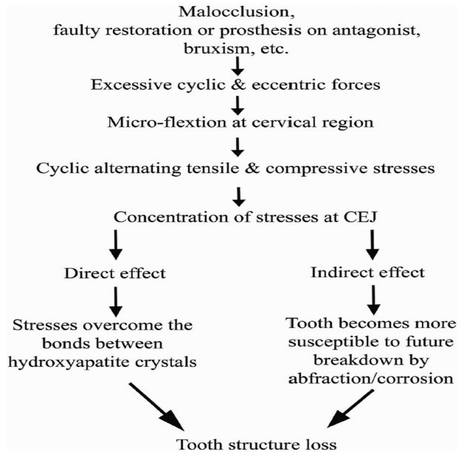

Fig.2. Etiopathogenesis of abfraction

KEYWORDS

Abfraction lesions, noncarious lesions, restorative treatment

Fig.3 Intraoral examination. Frontal view. Diagnosis: Abfraction lesion in teeth 13,14,15

Fig.4 Isolation with dental teflon, aluminium oxide processing

Fig.5 Etching

Fig.6 Bonding application

Fig.7 Filling of teeth 13, 14, 15

Fig.8 Final result

CONCLUSIONS

1.Abfractions lesions have a multifactorial etiology, the most important being occlusal stress, erosive tooth wear or an association of these factors.
2.A careful history taking and proper clinical examination are mandatory to reach at a correct diagnosis and a differential diagnosis.
3.Therapeutical treatment of abfraction lesions involves problem identification, diagnosis, etiological factor removal or treatment and, if necessary, restoration. Materials with a low elastic modulus that will accommodate tooth flexure - such as microfilled, nanohybrid or nanofilled composite resin, glass ionomer or resin modified glass ionomer - are a good choice for restoring abfraction lesions.