Orthodontic Appliance-Related Soft Tissue Trauma And Lesions

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Objective: The purpose of this review is to explore soft tissue trauma and oral lesions caused by orthodontic appliances and its impact on quality of life (QOL). This review seeks to outline preventative and treatment modalities for these patients.

Methods: Searches were conducted using keywords related to orthodontic appliances and oral soft tissue trauma or lesions in PubMed, Embase, and Scopus resulting in 390 abstracts which were subsequently screened. Full text articles of accepted abstracts were obtained and further screened to provide 22 articles which qualified for this literature review based on screening requirements.

Discussion: Dental trauma commonly involves soft tissues (15%-90% prevalence) in permanent dentition. There are several types of orthodontic appliances, but studies show that the majority of oral discomfort is experienced by patients wearing braces and headgear. Poor fabrication of appliances is a major concern for soft tissue abrasions and injuries of the oral mucosa. Injuries of the soft tissue during orthodontic treatment could lead to the appliance becoming sequestered in the oral mucosa, and/or surgical removal. Quality of life (QOL) was also investigated in this review, social angst was seen more in the groups of patients that had functional appliances, braces, and head gear. Patients wearing removable and functional appliances rarely complained of nutritional impediments or a decrease in QOL.

Conclusion: This review shows the relationship between orthodontic appliances and incidences of soft tissue trauma and oral lesions. Due to the impact on quality of life of patients with lesions more studies are needed to explore the causes and possible prevention of these lesions. The role of materials used in appliances, and possible treatment options also needs to be investigated. This is an area which is largely ignored in research and the aim of this review is to increase awareness.

Introduction

Orthodontics is a branch of dentistry concerned with growth and development of orofacial structures, malocclusion, and associated facial and dental anomalies. Available evidence suggests that the preventive and interceptive subdivisions are most appropriate for targeting malocclusions. During orthodontic treatment, introduction of fixed and removable orthodontic appliances result in an increased possibility of iatrogenic trauma associated with oral ulcers. However, only 28.7% of patients stated that orthodontic appliances result in an increased possibility of iatrogenic trauma at least one traumatic ulcer of the oral mucosa. Common locations for ulcers are sequestered in the oral mucosa, and/or surgical removal. Quality of life (QOL) was also investigated in this review, social angst was seen more in the groups of patients that had functional appliances, braces, and head gear. Patients wearing removable and functional appliances rarely complained of nutritional impediments or a decrease in QOL.

Methods

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Table 1. Literature search results.

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