INTRODUCTION

Temporomandibular Disorders (TMD) refer to a group of disorders that affect the temporomandibular joint (TMJ), the masticatory muscles or both (1-4). Include symptoms such as pain, noises (clicks or grating) and/or problems with mandibular movement (asymmetric or limited) (5-7). These symptoms self-limiting, can recur, and may fluctuate over time (5-7) and have an effect on health and quality of life of patients (6-8). Unfortunately, many aspects of the etiology and pathophysiology of TMD are not well known and remain controversial, due to the multifactorial nature of this condition (2, 5-7).

In 1987, a patient developed TMD symptoms during orthodontic treatment (OT) and the orthodontic treatment was held responsible. Evidence suggesting that orthodontics had not caused the problem was lacking and American Association of Orthodontists funded research to investigate the relationship between orthodontics and TMD (4-6). Currently the possible relationship between orthodontics and TMD is still a matter of debate (6-8): Does orthodontic treatment predispose to the development or aggravation of TMD? Or, on the other hand, will treat the signs and symptoms of TMD?

MATERIALS AND METHODS

A search was conducted until November 2013 on Cochrane Database of Systematic Reviews and Medline for systematic reviews, meta-analyzes, randomized clinical trials (RCT) and controlled clinical trials (CCT). The search was results and not to control bias. Portuguese and Spanish languages and studies in humans, using the following keywords: ‘orthodontic treatment AND temporomandibular disorders’ identifying 51 articles. After reading the respective titles and abstracts and according to the exclusion criteria (in vitro or in animal studies, studies in patients undergoing orthopedic or orthognathic surgery, alone or in combination with orthodontic treatment), were obtained 6 articles. Due to the small number of selected items and their frequent citation over the articles included, were still included 4 narrative reviews found on the list of related articles and bibliographies of them.

Thus, 10 articles were considered at the topic at hand, of which 5 was meta-analyses (2, 4, 5-8). A critical review of the quality of the included was performed by the authors, using the CASP Critical Appraisal Tools e PRISMA 2009 Checklist.

RESULTS

ORTHODONTIC TREATMENT → TMD

Is orthodontic treatment a predisposing factor to the development or aggravation of TMD?

1) Signs and symptoms of TMD occur in healthy individuals (3,7-8); 2) Signs and symptoms of TMD increase with age, particularly during adolescence, until menopause. Thus, TMD that originates during orthodontic treatment may not be related to the treatment (1,5-6); 3) Orthodontic treatment performed during adolescence generally does not increase or decrease the chances of developing TMD later in life (6,7-8); 4) The extraction of teeth as part of an orthodontic treatment plan does not increase the risk of developing TMD (7-9); 5) There is no evidence of an elevated risk for TMD associated with any particular type of orthodontic mechanics (3,7,8); 6) Although a stable occlusion is a reasonable orthodontic treatment goal, not achieving a specific pathologically ideal occlusion does not result in TMD signs and symptoms (7-9).

ORTHODONTICS AND TEMPOROMANDIBULAR DISORDERS

TEMPOROMANDIBULAR DISORDERS

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CONCLUSION

Although current scientific evidence demonstrates that orthodontic treatment is not a predisposing or etiological factor for the development or aggravation of TMD, neither a treatment for the signs and symptoms of this disorder, definitive conclusions cannot be drawn. Thus, based on existing information in the literature, orthodontics can not be considered the cause of TMD, or be recommended for treatment.

If future studies are planned, they should be prospective, using a reproducible and validated index, be undertaken by clinicians blind to which group the patients belong to, have patients randomly allocated to the groups and compared with appropriate controls.

REFERENCES