RATIONAL USE OF THE ALIFIX DEVICE.

BACKGROUND

Recent studies have demonstrated the multifactorial origin of temporomandibular disorders (TMDs), [22,23,24] where it is defined that there is no single factor responsible for their development and evolution.
Dental occlusion plays a role in the biomechanics and organization of the muscles of mastication, as well as their visco-elastic properties [1,2,3,5,7,8,9,55].
Given the complexity of the origin, [22,23,24] a multidisciplinary strategy is indicated for the effective management of TMD disorders [24]. Conservative and reversible therapies with risk/benefit assessment are recommended as the first therapeutic approach. The setting of exercises for muscle rebalancing is considered the choice for a first single therapeutic approach or associated with the use of splints and/or physiotherapy.

The effectiveness of exercise is affected by biomechanical factors and the state and coordination of the muscles [50,51,52].

WHAT'S ALIFIX

Alifix is a device that promotes the recovery of muscle function through gentle chewing exercises [35,43] performed in a condition of muscle balance [35,36].
Meets current indications for a conservative and reversible first intervention for TMD disorders of functional origin in the absence of other pathology [23,24,27,56,57], and can be used individually in simpler cases.

MECHANISM ACTION

Balancing effect on muscles.

Alifix, due to its special conformation, once inserted between the teeth:
1 - prevents tooth contact by eliminating its effect on chewing muscles (similar to a splint);
2 - allows more balanced support to be regained by placing the greatest wedge thickness in the posterior or anterior tooth area (biomechanical effect).
In this way, it improves the way the exercises are carried out, based on the movements during chewing and swallowing, satisfying the biomechanical needs (more balanced stance) and those of the state of the muscles (more balanced muscles), making the performance of exercises for functional recovery more effective [50].

It is evident from literature that exercise improves muscle oxygenation and metabolism [44,53,54,59,60] with a positive effect on muscle function [12,39,40,41,42,43,44,45,46,48,54,57].

Indirect action on the cervical area.

The presence of anatomical, biomechanical, and neurophysiological relationships between the mouth and neck [4,5,6] favors the extension of Alifix's effect at the cervical level in those cases where functional alterations are related unbalanced tooth support and, especially, in the presence of cervical postural problems [20,37,38,43].
Improvement of cervical symptoms after modification of tooth support by occlusal splinting or direct modification on occlusion (selective molding) [(37,38,61)] is reported in the literature.

SAFETY AND SIDE EFFECTS

Used as directed, Alifix has limited undesirable effects such as pain, soreness, muscle tension, and tooth sensitivity, which tend to disappear with product use. Initial muscle soreness or pain, or increased sensitivity, is among the normal effects of changing muscle activity (such as when one starts going to the gym). The feeling of nausea, increased salivation and dizziness , disappear with discontinuation of use. It should be remembered that Alifix is contraindicated in the presence of inflammation, acute pain, trauma, fractures.
It gives the feeling of balanced chewing, increases muscle strength and reduces neck tension, which is less effective in preventing headaches (the causes of which may not necessarily depend on chewing).

FIELDS OF USE

Professional use:

in the dental field as an aid in diagnosis and therapeutic setting in patients with TMD and as a tool to identify dysfunctional patients who are not yet symptomatic in all those cases where dental support (occlusal balance) needs to be controlled. The possible presence or absence of an effect of Alifix on the cervical area facilitates the identification of a multifactorial picture with indication for team therapy with a physical therapist, satisfying the evidence for a multiple treatment approach.

In physiotherapy, it is an aid to identify the possible influence of the occlusal component on cervical problems of muscular origin, in the absence of other specific pathologies, by evaluating the immediate effect of Alifix on cervical tension. This indication allows the diagnosis to be completed order to identify the need for a combined therapeutic approach in association with the professional figure of the dentist.

Home use:

Prescription by the specialist with application of the training protocol in TMD rehabilitation and as an adjunct in cervical rehabilitation.

in the absence of a specialist's diagnosis, use without chewing is recommended to prevent tooth contact and exert its muscle-balancing effect. In this case, Alifix gentle gymnastics during swallowing movements since, during swallowing, teeth are clenched with activation of the chewing muscles.

Conclusions

Exercise effectiveness is influenced by biomechanical factors and the state and coordination of the muscles [50,51,52]. Alifix acts on biomechanical conditions (balanced stance) and muscular balance to allow exercises to be performed with a more balanced musculature. It also allows dynamic mastication testing as a tool to diagnose the state of mastication muscle fatigue and to set up personalized progressive training of the mastication muscles to recover proper function, according to the indications reported in the literature.

The setting of exercises for muscle rebalancing, recommended by the specialist, is considered among the choices of choice, in association or not with other non-invasive and reversible methods (splints, physiotherapy), as a first approach to cervico-mandibular dysfunctional problems [(12,23,24,46)]. Muscle exercise allows for improved metabolism and recovery of better movement organization resulting in improved symptoms [39,41,42,43,45,47,49].

The use of Alifix helps as an adjunct in the planning of chewing exercises in the presence of fatigue and altered muscle organization, in the absence of specific pathology, alone or in conjunction with other interventions such as the use of splints or physiotherapy.

Muscle tension can be an expression of the state of stress and can originate and be maintained by the use of digital devices or those conditions that impose prolonged incorrect postures [(10,11)]. Therefore, the use of Alifix can be considered an aid in the management of daily muscle tension in the absence of specific pathologies. Its effect fades until it disappears, if not used regularly, as long as the various causative factors of muscle tension (altered postures and stress in particular) persist.

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