

THE POSSIBLE INTERACTION BETWEEN THE MASTICATOR MUSCLES AND POSTURAL LIGAMENT OF THE VARIOUS SKELETAL SEGMENTS IN THE IMPROVEMENT OF THE SPORT

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Review paper

Abstract

Studies carried out on the electro-myographic recording performed on the masticatory muscles and paravertebral showed that during a forced centric occlusion there is a difference in electrical activity of the muscle groups not only in localized but extended to the entire muscle chain of the spine. This shows how important it is to focus on the study of the postural position of the mandible and the way this position is able to affect the electrical activity and therefore the state of tonic contraction of certain muscle areas near and far from the apparatus tooth as the cervical paraspinal muscles and thoracolumbar. It appears, therefore, evident that the same mandibular postural changes may be responsible, or at least also favoring certain diseases of the spine.

Key words: *prevention, dental, vertebral musculature, posture, spinal, sports*

Introduction

Studies carried out on the existence of relationships between orthopedic and cranio-mandibular posture dates back to 1942 by Thompson which emphasized the close relationship between masticatory muscles and posture. In recent years, other authors have initiated studies of Posture driven by the need to know the anatomical and functional relationship of some postures with certain pathological difficult to classify. The spine in static upright position represents the "posture". The Committee of the posture of the academy of orthopedic surgery defines it as "the skeletal alignment arose from a disposition of the parts of the body in a state of balance which protects the supporting structures against injury or progressive deformity." Proper posture therefore requires a balance between the tone of the ligaments and muscle tone reaching a position cosmetically acceptable without expenditure of energy. A skeletal asymmetry, an imbalance resulting in fatigue involve improper posture with production of pain and nociceptive input. Recent studies in dentistry have found that the analysis of the positions that the stomatognathic system has changed over the course of evolution of the species, the cranio-mandibular complex has gradually aligned on the axis antigravity postural catching up with the man 'more complete alignment. Of particular importance in this complex holds the jaw bone and median ear, firmly anchored to the skull by means of synovial joints temporo-mandibular joints that create an equal and symmetrical bilateral muscular balance. In fact, when he took over a lateral displacement due to dental problems that affect this balance is undergoes alterations that affect the symmetry of the joint concerned. Occlusion means for the presence of static contact between the upper and lower dental elements of the two arches. The occlusion is closely connected with the "positions" that the jaw itself can take.

Material and methods

One of the operating techniques used in the diagnosis and therapy of pathologies occlusal consists in identifying the physiological rest position of the mandible and the closing trajectory. When the contact between the teeth of the two dental arches can not occur for the interposition of a something that alters the physiological relationship of contact it undergoes a malocclusion. When there is malocclusion there is the impediment physiological and contemporary of the contact between the teeth of the two arches, but such impediment lasts just because the control system of the "position" mandibular predisposes the motor response by acting on the muscle fibers so that the perturbation is avoided and the contact between opposing teeth restored. Studies carried out on the electromyographic recording performed on the masticatory muscles and paravertebral showed that during a forced centric occlusion there is a difference in electrical activity of the muscle groups not only in localized but extended to the entire muscle chain of the spine. This shows how important it is to focus on the study of the postural position of the mandible and the way this position is able to affect the electrical activity and therefore the state of tonic contraction of certain muscle areas near and far from the apparatus tooth as the cervical paraspinal muscles and thoracolumbar. It appears, therefore, evident that the same mandibular postural changes may be responsible, or at least also favoring certain diseases of the spine.

Results

The study shows that changing in a non-invasive dental occlusion will have positive improvements on athletes for sports performance with an increase ranging from 20 to 40% and reduction of oxygen consumption and lower production of lactic acid in muscles.

In the race the athlete burns less oxygen and less lactic acid builds up, improves its performance with less breakage problems. Italian researchers have experienced one of the first, this search method using an intervention of several medical disciplines: dentistry, ophthalmology, orthopedic and ENT-throat specialist.

This type of action has already been taken on players and professional basketball players and also applies to any sport and it is a great remedy for any young practitioner who wants to enhance his sport performance. Of course it is not an invasive method, the application goes to strengthen the existing structures without braking, however, the 'sport. In the United States this methodology is of great attention, particularly in the game of football, so an athlete before engaging in a sport at a competitive level and professional sports to enrolled with the company undergoes orthodontic examination to see if mandibular articulation looks so normal and so will the good potential of the athlete or otherwise interfere with dental treatment.

In our country, this culture is catching on for some time now and some football clubs in Serie A, already using this methodology on a long operation of the mandibular articulation and posture of their athletes. It is scientifically proved that the temporomandibular joint Atm, is fully involved in the mechanisms of compensation due to faults of our posture, representing the hinge by which the jawbone is attached to the skull. The mandibular posture and the cranio-cervical and whole body are directly connected to each other and that is to say that each posture of the head and the body corresponds to a precise position of the jaw and vice versa. The consequence of stress dental springs from a wrong position Atm-temporomandibular joint and the negative impact of physical stress, and there is no possibility in which our body can find no relief. In a traumatized limb can be kept in a resting state but can not be left to stand instead of the temporomandibular joint, since 2000 acts of swallowing a day or so, whenever that is our teeth meet in occlusal relationship alternating flows from always a situation of stress. Over the years the pathologies such as neck pain, back pain, lumbago, tendonitis care physicians was only to dwell on them by pulling them out from the general context with the use of curative pharmacological interventions form, and in severe cases resolved surgically, also with the use of techniques for handling, giving as final result certainly a benefit with the progressive remission of symptoms, but over time unfortunately came up again again the pain symptoms.

Conclusions

This question requires us to ask why there is any further symptoms if all therapies were carried out promptly and effectively on the athlete. One possible answer comes to us today from the scientific Posture, ie the science that studies the body's position with reference to the different situations that you have between the 'individual and the environment in which he lives and moves where the main culprit is the tonic postural system. The STP has a major role for our postural balance which is renewed and maintained because it is necessary that the receptors eyes, the receptors of the skin-proprioceptors, feet, and teeth with the temporomandibular joint is completely intact. A scholar-orthopedic doctor said that poor posture is also due to crooked teeth, in fact many paramorphisms (attitudes in scoliosis) caused by poor posture, particularly in children (teens) are in close relationship to the incorrect shutdown of 'dental arches and therefore the perfect articulation theory is directly proportionate to correct posture and use recommended dentists in adolescents of machines for the teeth over time also helps to improve posture; we can say that as it would create a kind of reflex arc between the exact non-closure of the jaw with postural defects in adolescents with the twist of the spine. Of course improves joint optimal sports or on the contrary if the closure of the teeth is not perfect, the athlete runs badly, with inevitable complications such as muscle chronic tendinopathy of the lower limbs, the talagia sportsman, plantar fasciitis, or even a 'inflammation of the plantar fascia with pain due to weight overload. In basketball for example, is often the problem of jumper's knee with pain affecting the extensor consequent overload of the patellar tendon (jumper knee.) This problem often expands to a high number of practitioners who accuse jogging almost always poorly back pain, low back pain of the sportsman, the syndrome caused rachidattamento related to how to run the race or wrong for huge overhead burden excessively on the lumbosacral hinge, due to a wrong posture. Today we talk about injury prevention and training methods differ according to the different roles of the players, the sports practiced and competitive commitments of the league. This is necessary because you try to get better and better the athlete's performance, just by virtue of the many performances held in the week, for example in the calendars of football was played a game once a week on Sundays, now claims more more players with even 2 or 3 times weekly meetings with reduced rest or almost non-existent, with appearances in the field even 50/60 games a season compared to only 30 games once.

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MOGUĆE INTERAKCIJE IZMEĐU MIŠIĆA MASTICATORA I POSTURALNOG LIGAMENTA RAZNIH SKELETNIH SEGMENTA ZA POBOLJŠANJE U SPORTU

Sažetak

Istraživanja provedena na elektro-miografskom snimanju izvoda žvačnih mišića i paravertebralno pokazala su da tijekom prisilnog centralne okluzije postoji razlika u električnoj aktivnosti mišićnih skupina, ne samo u lokalno, već prošireno na cijeli mišićni lanac kralježnice. To pokazuje koliko je važno da se usredotočite na proučavanje posturalnog položaja mandibule jer je ova pozicija je u stanju utjecati na električnu aktivnost i stoga su stanja tonične kontrakcije pojedinih mišića u područjima blizu i daleko od aparata zuba kao cervikalnih paraspinalnih mišića i thoracolumbarno. Čini se, dakle, vidljivo da isti u donjoj čeljusti mogu biti odgovorni za posturalne promjene, ili barem u favoriziranju određenih bolesti kralježnice.

Ključne riječi: prevencija, dentalno, vertebralna muskulatura, stav, spinalno, sports

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