EDITORIAL

ON THE SUBJECT OF: CUCCIA A, CARADONNA C. THE RELATIONSHIP BETWEEN THE STOMATOGNATHIC SYSTEM AND BODY POSTURE. CLINICS. 2009;64(1):61-6.

CORRELATIONS BETWEEN THE STOMATOGNATHIC SYSTEM AND BODY POSTURE: BIOLOGICAL OR CLINICAL IMPLICATIONS?

Giuseppe Perinetti

doi: 10.1590/S1807-59322009000200002

I am writing to comment on the review entitled "The relationship between the stomatognathic system and body posture" by Cuccia and Caradonna, which was recently published in Clinics.[1] This is a narrative review that examines current evidence for correlations between any of the stomatognathic system (SS) morphological/ functional features and body posture. In particular, the authors concluded by saying that: "...there are real correlations between posture and the SS" and "...an increase in postural swaying may indicate a general malaise caused by problems in the SS." At first glance, the review appears interesting, but after a more accurate analysis, one wonders if the conclusions can be considered as truly unbiased, or if the issues are addressed in a sufficiently accurate manner.

To consider this in more detail, two distinct aspects that must not be confused are the existence of correlations at a biological level and their potential clinical relevance. In other words, even though a correlation may be detected experimentally, this does not mean that it will have clinical relevance. Only if the biological correlations reach a clinically significant grade should the diagnosis and consequent treatment plan be required to take these aspects into account. This concept, however, has been missed in most of the published literature, including the above-mentioned review, with a few exceptions.[2-4] Therefore, it is not possible at present to draw accurate conclusions on the real clinical (rather than statistical) significance of the correlation between the SS and body posture. For instance, data regarding the sensitivity and specificity of the posturographic assessment of body oscillation in healthy and temporomandibular disorder (TMD) patients has never been reported. Currently, there are results that both favor [5-7] and contradict[3,8,9] the existence of detectable correlations.

There are additional concerns and comments regarding this paper. First, a correlation between the SS and head and neck posture does not imply that whole body posture will be influenced as well, and the results from previous studies might be better analyzed considering this concept. Second, most of the published literature on the correlation between the SS and body posture are of low quality by design, i.e., there is an absence of randomized clinical trials and most studies did not perform follow-up or include control groups, rendering it difficult to draw any definitive conclusion. Third, a critical reappraisal of the previous data was not reported in the review by Cuccia and Caradonna;[1] instead, the conclusions reported by the various authors were restated. Fourth, an exploration of the possibility that different results among the various studies might be linked to the different methodologies used to monitor body posture, e.g., electromyography or posturography, was not included (if a link exists, then major clinical implications can be derived). Finally, in spite of the automatic key-word-based and manual searches used, the present review did not include several previous studies that did not support detectable correlations between the SS and body posture.[2-4,8,9]

Department of Biomedicine, University of Trieste – Trieste, Italy
Email: G.Perinetti@fmc.units.it

In light of the considerations listed above, the conclusions presented in the review by Cuccia and Caradonna[1] appear biased. In fact, current data on these correlations (both supportive and contradictory) should be interpreted with caution due to the complexity of the system under investigation and to the lack of studies with high-grade scientific evidence. Therefore, whether these correlations are limited to a biological level with no clinical implications remains an open question.

REFERENCES

1. Cuccia A, Caradonna C. The relationship between the stomatognathic system and body posture. Clinics. 2009;64:61-6.

2. Sinko K, Grohs JG, Millesi-Schobel G, Watzinger F, Turhani D, Undt G, et al. Dysgnathia, orthognathic surgery and spinal posture. Int J Oral Maxillofac Surg. 2006;35:312-7.

3. Perinetti G. Temporomandibular disorders do not correlate with detectable alterations in body posture. J Contemp Dent Pract. 2007;8:60-7.

4. Perinetti G. Dental occlusion and body posture: no detectable correlation. Gait Posture. 2006;24:165-8.

5. Zonnenberg AJ, Van Maanen CJ, Oostendorp RA, Elvers JW. Body posture photographs as a diagnostic aid for musculoskeletal disorders related to temporomandibular disorders (TMD). Cranio. 1996;14:225-32.

6. Monzani D, Guidetti G, Chiarini L, Setti G. Combined effect of vestibular and craniomandibular disorders on postural behaviour. Acta Otorhinolaryngol Ital. 2003;23:4-9.

7. Saito ET, Akashi PM, Sacco Ide C. Global body posture evaluation in patients with temporomandibular joint disorder. Clinics. 2009;64:35-9.

8. Munhoz WC, Marques AP, de Siqueira JT. Evaluation of body posture in individuals with internal temporomandibular joint derangement. Cranio. 2005;23:269-77.

9. Darlow LA, Pesco J, Greenberg MS. The relationship of posture to myofascial pain dysfunction syndrome. J Am Dent Assoc. 1987;114:73-5.