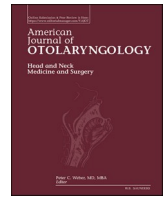


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Gnatological considerations on "Pediatric temporomandibular joint ankylosis and arthritis: Forgotten complications of acute otitis media"

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Dear Editor,

We read with great interest the publication by Dr. Parrino and colleagues titled "Pediatric temporomandibular joint ankylosis and arthritis: Forgotten complications of acute otitis media" [1]. We acknowledge the efforts of the authors to share a case about a possible, rare complication of a relatively common condition and their thorough review of the available literature. We have also appreciated this work since it emphasizes the frequently overlooked connection between temporomandibular joint (TMJ) function and ear conditions. We would like to point out some short remarks about this latter issue.

The link between otological and TMJ disorders is bidirectional. Some kind of dental malocclusion, such as the retruded or deviated bite, can cause a mandibular misplacement with consequent malposition of the condyle [2]. In the article by Parrino et al., the patient presents a severe II class relation between the molar teeth, as shown in Fig. 3. This is typically seen in retrusion or lateral deviation of the mandible [1]. In our opinion, early recognition of a mandibular malposition in such cases could lead to a repositioning therapy with oral appliances, a non-invasive treatment that could be administered from 3 years of age, with potential advantages at 3 different levels of prevention.

As primary prevention, a mandibular repositioning therapy could prevent recurrent acute otitis media (RAOM). In previous work, we showed a potential link between RAOM in childhood and malocclusion with mandibular malposition [3]. Children suffering from RAOM could benefit from mandibular repositioning with dental appliances, with a significant reduction of inflammatory episodes. The possible mechanism relies on a conflict between the mandibular condyle and the Eustachian tube, whose opening and closing are related to muscles connected with the mandible itself [3]. Repeated inflammations of the middle ear increase the risk of TMJ arthritis and ankylosis; therefore, preventing RAOM could reduce the onset of these articular complications [4–6].

As secondary prevention, mandibular repositioning could protect the TMJ from adjunctive mechanical damages in the case of TMJ arthritis. In fact, in the case of condylar malposition, the rear misplacement could generate a micro-trauma that possibly erodes the subtle osseous

membrane between the external and middle ear and the glenoid cavity, as it abruptly happens in major trauma [7]. Therapy with oral appliances could restore a correct TMJ function avoiding the chronic micro-traumatic events with subsequent articular degenerative phenomena, the consolidation of the ankylosis, and potential future TMJ disorders [8,9].

Finally, as tertiary prevention, mandibular repositioning could facilitate and increase the effectiveness of physiotherapy, which is generally recommended after surgery for TMJ ankylosis, averting the condyle to return to the previous disadvantageous placement once the patient resumes the habitual dental intercuspation [10].

We hope that the article by Parrino and colleagues could stimulate thoughts among clinicians about the possible connections between close organs such as the ear and the TMJ, prompting a multidisciplinary approach in the diagnosis and management of common conditions like inflammatory and infectious otologic diseases.

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CRediT authorship contribution statement

Edoardo Bernkopf: Conceptualization, Writing – original draft, Writing – review & editing, Visualization, Supervision. **Giulia Bernkopf:** Writing – review & editing, Visualization, Supervision. **Giovanni Carlo De Vincentiis:** Writing – review & editing, Visualization, Supervision. **Francesco Macri:** Writing – review & editing, Visualization, Supervision. **Vincenzo Capriotti:** Conceptualization, Writing – original draft, Writing – review & editing, Visualization, Supervision.

Declaration of competing interest

There is no possible conflict of interest in this manuscript, on the part of the authors.

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