

## Clustering of oral symptoms versus radiation-induced apical periodontitis

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Dear Editor,

In their recent publication, Hommez et al. [1] suggest that the direct effect of radiation on tooth-bearing areas of the jaws would be able to increase the risk for apical periodontitis. We have some concerns about this association.

It is well-known that oral side effects from head and neck cancer therapy develop simultaneously and irradiated patients often experience mucositis, hipossalivation, taste changes, fungal infections, oral pain, trismus, and radiation-related caries (RRC) concurrently. When head and neck cancer patients do not receive dental treatment before, during, and after radiation, these complications tend to cause a clustering of oral complications and often progress to rampant RRC, consequent apical periodontitis and eventually lead to osteoradionecrosis. Besides, head and neck cancer patients typically present limited past dental care, poor oral hygiene, and evident dental/periodontal diseases prior to the commencement of cancer treatment [2]. Therefore, when analyzing patients who did not receive dental attention before the course of radiation, it is difficult to assume that direct effects of radiation on tooth-bearing

areas (regardless of the final dose of radiation delivered to each tooth) would be able to cause apical periodontitis. This fact is strengthened by the finding that teeth with apical periodontitis presented a significantly higher rate of caries in the study in question.

Notwithstanding, the authors state in their discussion that “An explanation for the higher incidence of apical periodontitis in radiated bone could thus be caused by..., due to the radiation of the bone.”. Conversely, in a previous study, the same group of authors did not find an increased [3] prevalence of apical periodontitis in patients who underwent head and neck radiotherapy.

Thus, we believe that such comments may contribute to the myth of direct radiogenic destruction of dentition, which, in turn, may cause a misinterpretation in part of the general practitioners who eventually avoid treating post-radiotherapy patients. In conclusion, apical periodontitis is a quite common oral finding in pre- as well as in post-head neck radiation populations and should not be considered as a direct effect of radiotherapy on teeth and jawbone.

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