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Letter to the editor

Correlation between chronic inflammation and oral squamous cell carcinoma (OSCC)

Dear editor,

The letter to the editor "***Malignant potential of oral submucous fibrosis due to intraoral extraction wounds and poor oral hygiene***" by P.S. Satheeshkumar et al. caught our attention as it brought about the very interesting and relatively pristine topic of correlation between chronic inflammation and oral squamous cell carcinoma (OSCC) [1].

The development of OSCC is a deteriorating multi-steps process that requires accruing new genetic and epigenetic alterations within a background of individual inherent susceptibility [2]. It is yet to be known how exactly a benign inflammatory process takes an aberrant path and become hazardous. However, studies on the cellular and molecular bio-markers of oral epithelial dysplasia (OED) and OSCC suggested that DNA transcriptional deviations can be a possible explanation to the association between the development of OSCC and chronic inflammation [3]. The semi-quantitative immunohistochemical analysis of the following transcription factors: cluster of differentiation 8 (CD8), fork head box P3 (FOXP3), transforming growth factor-β (TGF-β), tumor necrosis factor-α (TNF-α), and nuclear factor κ-light chain enhancer of activated B-cells (NF-κB) showed that CD8, TGF-β, TNF-α and NF-κB participated in the cancerogenesis process. The presence of inflammatory infiltrate in cases of OED favors the malignant transformation and invasion when stromal TNF-α and NF-kB are over-expressed. Moreover, NF-kB activation by TNF-α in inflammatory reactions is assumed to probably mediate malignant cell proliferation [3–5].

References

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