# Maxillo-mandibular Osteoimmunology – Hidden Fatty Degeneration in Jawbone Marrow as Interface to Systemic Inflammation?

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**Introduction:** Jawbone cavitations (JC) are hollow dead spaces in the jaw bone, where the bone marrow is dying or dead. We investigated in depth JC as a fatty-degenerative osteolysis in jawbone (FDOJ). These jawbone marrow defects appear as a lump of fat inside of an intact cortical bone. The tissue is in an ischemic, fatty degenerative state and is biochemically exceedingly active, producing certain cytokines in high amounts, namely RANTES/CCL-5 (R/C). The level of R/C is also elevated in a number of systemic-immunological diseases (SIDs) such as cancer, depression, multiple sclerosis or arthritis. **Objectives:** There is strong evidence that the development and the persistency of a variety of SID can be related to the R/C overexpression in FDOJ. Hence, serious health risks can be associated with FDOJ lesions. **Methods:** A major problem in dentistry is that FDOJ appears without abnormal findings in X-ray examination. Our data revealed a discrepancy between the X-ray density of dental 2D-OPGs and bone marrow defects in jawbone like FDOJ. Being virtually undetectable by X-ray the occurrence of FDOJ remains widely unknown and even are denied. This suggests a critical attitude toward the use of 2D-OPG as a sole imaging diagnostic tool for assessing FDOJ cavitations. 2D-OPG is objectively not suitable for depicting FDOJ. How to detect Jawbone Cavitations? **Summary:** To overcome this problem the use of Through-Transmission Alveolar Ultrasonography (TAU) was evaluated. New TAU apparatus CaviTAU® provides pictures in 2D and 3D to depict FDOJ lesions as a source of chronic-inflammatory R/C signaling to build up SID. Eliminating this R/C source might hinder SID to propel further. **Conclusion:** Collectively, the described findings open new insights underlying increased SID propensity in individuals with chronic FDOJ derived overexpression of R/C. For the benefit of SID patients, it is necessary that medicine and dentistry devote further attention to the hidden phenomenon of FDOJ and the new aspect of **Maxillo-mandibular Osteoimmunology** and the associated R/C signaling patterns.

**Linking to https://www.ncbi.nlm.nih.gov/pubmed/?term=Lechner+Johann shows all the 20 author's science based research in Maxillo-mandibular Osteoimmunology and hitherto PubMed indexed papers.**

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