

TMJ pain: in vivo assessment of 15d-PGJ2 prostaglandin as a potential therapeutic

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ABSTRACT

Inflammation of orofacial tissues is the most common cause of many orofacial pain conditions, including temporomandibular disorders (TMDs), and in many cases, it leads to chronic orofacial pain. Relieving temporomandibular joint (TMJ) pain is a challenge since TMDs involve deep tissues, making it difficult to target the trigeminal neural system. Traditionally, medications such as non-steroidal anti-inflammatory drugs, corticosteroids, muscle relaxants and opiates have been used to treat TMJ pain; however, evidence supporting their effectiveness is lacking. It is thus important to investigate and develop other pharmacological interventions to treat TMJ pain.

Accordingly, we have investigated 15deoxy-D12,14-prostaglandinJ2 (15d-PGJ2), a natural ligand for Peroxisome Proliferators-Activated Receptor Gamma (PPAR γ) for its ability to reduce nociception. We have demonstrated that peripheral administration of 15d-PGJ2 can prevent nociceptor sensitization in different inflammatory conditions in the TMJ animal models, suggesting a potential use of 15d-PGJ2 in the management of TMJ pain.



BIOSKETCH

Dr. Clemente-Napimoga is an Associate Professor of the Department of Physiological Sciences, Piracicaba Dental School, University of Campinas (Brazil). Her research interests are in the fields of orofacial pain conditions and developing novel therapies for their treatment. Her laboratory is currently investigating hypernociception induced by inflammatory conditions in the temporomandibular joint tissues and new pharmacological interventions to treat TMJ pain.

Dr. Clemente-Napimoga is a Doctor in Dental Surgery, and she completed her MS (2004) and PhD degrees (2006) in Dentistry, Oral Physiology area from Piracicaba Dental School, University of Campinas, Brazil. Dr. Clemente-Napimoga has been working in the field of orofacial pain conditions with financial support from different agencies from Brazil. Currently, Dr. Clemente-Napimoga is the coordinator of the Graduate Program in Dentistry from Piracicaba Dental School, University of Campinas, one of the top ranked graduate program in dentistry in Brazil