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Infrared laser irradiation applied to the treatment of burning mouth syndrome

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Burning mouth syndrome (BMS) is a chronic disease that causes a burning sensation on an otherwise clinically normal oral mucosa. Its pathogenesis is still unknown and, as consequence, there is no satisfactory treatment so far.

The aim of this study was to investigate the effect of low level laser therapy on the reduction of patient's burning symptom.

Seven patients affected by burning sensation were selected at the Clinic of Oral Diagnosis of the Dentistry School at the University of São Paulo. The protocol was reviewed and approved by the local ethics committee. An AsGaAl diode laser (Quantum, EccoFibras, Campinas, Brazil) emitting 790nm was used in this study. The time of irradiation was calculated based on the fluence of 6J/cm², output power of 120mW and area to be treated. Energy was delivered by scanning the mucosal surface keeping the probe in contact with the tissue. The treatment was performed once a week for three consecutive weeks. Burning intensity was recorded through a visual analog scale (VAS) before, at the end of the treatment and in a 6-week follow-up.

The mean VAS value decreased significantly from the beginning to the end of laser therapy ($p=0.003$) and to the follow-up ($p=0.017$). After the laser irradiation, a mean reduction of 80.3% was obtained. There was no statistical difference between the end of the treatment and the 6-week follow-up ($p=0.25$).

Under the investigated parameters, infrared low level laser therapy was effective in the reduction of the BMS symptoms and it was able to maintain the improvement achieved for 6 weeks.