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The effects of infrared laser and medical treatments on pain and serotonin degradation products in patients with myofascial pain syndrome. A controlled trial

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Abstract In this controlled study of 46 patients with myofascial pain syndrome, we investigated the effects of infrared (IR) laser application to trigger points and medical treatment on pain reduction and serotonin and its degradation products. Retaining double-blind trial principles, the patients were randomly assigned to two groups. The treatment group received IR laser treatment, whereas the control group received sham laser.

However, both groups received medical treatment. In the treatment group, laser was applied once a day for 10 consecutive days at a dose of 1.44 J/cm². The effect of the laser treatment on pain was evaluated by visual analog scale. Urinary excretion of 5-hydroxy indole acetic acid (5-HIAA) and serotonin + 5-hydroxy tryptophan (5-HT+5-HTP) was studied by column chromatography. At the end of the treatment, there was a statistically significant difference between the VAS values of the treatment and control groups. The 24-h urinary excretion of the 5-HIAA and 5-HT+5-HTP was significantly higher in the laser treatment group than in the placebo group. In conclusion, IR laser is an effective modality in the treatment of MPS which increases an important mediator of pain inhibition, serotonin.