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Photomedicine and Laser Surgery

A New Method For Hemorrhoid Surgery: Intrahemorrhoidal Diode Laser, Does It Work?

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ABSTRACT

Objective: This study aimed to describe the clinical results of intrahemorrhoidal application of a diode laser.***Background Data:*** Hemorrhoids are a common source of pain, and no surgical technique achieves a painless outcome. Endovascular laser therapy for varicose veins as described in an experimental study is a method that could be used in the treatment of hemorrhoids, but there are few clinical trials described in the literature.***Materials and Methods:*** Fifteen patients with second and third degree hemorrhoids underwent intrahemorrhoidal laser therapy. After the piles were identified, a fiber was introduced into each and it was irradiated with laser energy (810 nm, 5 W, frequency of 5 Hz, energy density of 19 J/cm^2, total energy of 4–10 J). ***Results:*** The piles were immediately partially reduced, and clinical examination 7, 14, 21, and 28 d after surgery showed complete healing in nine patients (60.4%) and partial resolution in five patients (33%). In one patient (6.6%) the treatment failed. Mean pain intensity throughout the study period, measured by a visual analog scale (0–10), was 0.84 ± 1.13 (mean ± SD). Major complications were burn lesions ($n = 4$) and residual plicoma (skin tag) ($n = 5$). Ten control patients underwent an open "cold scalpel" hemorrhoidectomy. Their pain intensity was 1.78 ± 0.68 (mean ± SD). There was a significant statistical difference ($p = 0.018$) between groups. ***Conclusion:*** The diode laser energy delivered into small to median hemorrhoidal piles caused little pain and led to a partial to complete resolution within a short time compared to open hemorrhoidectomy. Some adjustments must be made to prevent burning lesions and residual plicoma. Although it is not a good method for big piles, this technique opens new possibilities for surgical treatment of hemorrhoidal disease.