

The Effects of L-Arginine Supplementation on Clinical Symptoms, Quality of Life, and Anal Internal Sphincter Pressure in Patients with Chronic Anal Fissure

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Abstract : Background: The hypertonicity of internal anal sphincter resting pressure is one of the main reasons for chronic anal fissures. The aim of this study is to assess the effect of oral administration of L-arginine on anal fissure symptom improvement by relaxation of the internal anal sphincter. Method: Seventy-six chronic anal fissure patients (age: 18-65 years) took part in this randomized, double-blind, placebo-controlled trial study from February 2019 to October 2020 at Rasoul-e-Akram Hospital, Tehran, Iran. Participants were allocated into treatment (L-arginine) or placebo groups. They took a 1000 mg capsule three times a day for one month and were followed up at the end of the first and third months after receiving the intervention. Clinical symptoms, anal sphincter resting pressure, and quality of life (QoL) were completed at baseline and the end of the study. Result: The analysis of data was shown significant improvement in bleeding, fissure size, and pain within each group; however, this effect was more seen in the arginine group compared to the control group at the end of the study (P-values<0.001). Following that, a significant increase in QoL was seen just in patients who were treated with arginine (P-value=0.006). Also, the comparison of anal pressures to baseline and between groups at the end of the study showed a significant reduction in sphincter pressure in treated patients (P-value<0.001, =0.049; respectively). Conclusion: Oral administration of 3000 mg L-arginine can heal chronic anal fissures by reducing anal internal sphincter pressure with fewer side effects. However, a long-term study with more follow-up is recommended.

Keywords : L-arginine, anal fissure, sphincter pressure, clinical symptoms, quality of life

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