Muscle-building therapy in treatment of nasal valve collapse.

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OBJECTIVES: The purpose of this paper is to describe the outcome of muscle-building therapy for nasal muscles in cases of nasal valve stenosis or collapse. The present study was performed to investigate the best way to combine transcutaneous and intranasal surface electromyography (sEMG) biofeedback training of muscles involved in nasal valve function with a home exercise program and electric stimulation of nasal muscles. METHODS: A randomized pilot study of 3 groups of patients (n1=12, n2=12, n3=10; total 34 patients) presenting with symptoms of obstructed nasal breathing was conducted. All selected patients demonstrated nasal valve stenosis with a positive Cottler maneuver and clinically evident nasal valve collapse. Follow-up ranged from 8 to 12 months. Treatment for Group 1 included transcutaneous and intranasal electric stimulation of nasal muscles only. Treatment for Group 2 included biofeedback training and home exercise program of specific nasal movements, and treatment for Group 3 included surface and intranasal EMG biofeedback assisted specific strategies for nasal muscle education, home exercises and electric stimulation. RESULTS: All patients in these groups exhibited subjective improvement. For Group 3, in 80% the improvement was proved objectively; for Group 2, in 75% the improvement was proved objectively; for Group 1, in 58,33% the improvement was proved objectively. We found no significant difference between the results in Groups 3 and 2 and poorer results in Group 1. CONCLUSION: Relieve of nasal valve stenosis and collapse can be achieved with a complex muscle-building therapy as described. It helps a significant cohort of patients with symptoms of obstructed nasal breathing to avoid surgical intervention. Electric stimulation of the muscles does not contribute significantly in achieving of good results.

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