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## The effect of Varenicline on smoking cessation in a group of young asthma patients

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### **Abstract:**

**Background:** Tobacco use causes long-term morbidity and mortality. In patients with asthma, the frequency of smokers is high; however, asthmatic smokers experience more pronounced symptoms, accelerated loss of lung function and treatment resistance. Varenicline is an effective drug in smoking cessation, when investigated in COPD patients and general populations. The aim of the present study was to evaluate the effect of Varenicline on tobacco cessation in young asthmatics.

**Methods:** In a randomized, placebo-controlled, double-blinded trial, 52 asthmatic current smokers (age 19-40)  $\geq 10$  cigarettes daily and  $\geq 10$  packyears (mean 15.6) were recruited to a 12 week treatment period with Varenicline or placebo (1:1) in parallel design. Evaluation of smoking status, asthma symptom score, general health quality score and methacholine challenge were performed at week 0, week 6, week 12 and week 24.

**Results:** In the Varenicline group, at week 12, 69% of the patients quit smoking vs. 36% in the placebo group ( $p=0.017$ , intended-to-treat analysis), but after 24 weeks, a high relapse rate was present (quit rates 19% vs. 16%, NS). After 6 weeks of treatment, significant improvements in airway hyperresponsiveness (AHR) in the Varenicline group was found (from 88% to 58%,  $p=0.016$ ), whereas no change was observed in the placebo group. Symptom score and general health quality improved in both the Varenicline and the placebo group.

**Conclusion:** We demonstrated that Varenicline can be used with a high probability of success with tobacco cessation in young smokers with asthma, but relapse rate after end of treatment is high. Quitting smoking can improve asthma control.

### **Keywords:**

Smoking, smoking cessation, asthma, Varenicline, airway hyperresponsiveness, asthma control, life quality

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