Smokers and ex-smokers with chronic stable asthma did not respond to high dose oral corticosteroids


Clinical impact ratings GP/FP/Primary care ★★★★★☆ IM/Ambulatory care ★★★★★☆ Respirology ★★★★★☆

In patients with chronic stable asthma, is bronchodilator and symptomatic response to high dose oral corticosteroids affected by smoking status?

METHODS

- Design: randomised, placebo controlled, crossover study.
- Allocation: concealed.*
- Blinding: blinded [patients, clinicians, data collectors, outcome assessors, and data analysts].
- Follow up period: 2 weeks.
- Setting: hospital clinics in Glasgow, UK
- Patients: 59 patients who were 18–55 years of age (mean age 42 y, 72% men; based on 50 patients), had chronic asthma, forced expiratory volume in 1 second (FEV1) of 50–85% predicted, and >15% reversibility of FEV1 after nebulised albuterol (2.5 mg). Exclusion criteria: asthma exacerbation, use of oral corticosteroids, or respiratory tract infection within 4 weeks; recent peptic ulcer; glaucoma; pregnancy; or lactation. 17 patients were current smokers (smoked for >10 pack-years), 11 were ex-smokers (smoked for >10 pack-years and quit more than 1 y ago), and 31 had never smoked.
- Intervention: oral prednisone, 40 mg, or identical placebo for 14 days. After a 2 week washout period, patients received the alternative treatment.
- Outcomes: change in prealbuterol FEV1, after active treatment compared with placebo, morning peak expiratory flow (PEF), and a validated asthma control score (0 = well controlled and 6 = poorly controlled).
- Patient follow up: 85%.

*See glossary. Information provided by author.

MAIN RESULTS

Patients who had never smoked had improvement in prealbuterol FEV1, and asthma control scores with prednisone compared with placebo, whereas smokers and ex-smokers did not (table). Morning PEF improved in never-smokers and ex-smokers but not current smokers (table).

CONCLUSION

In patients with chronic stable asthma, a 2 week course of prednisolone improved FEV1 and asthma control scores in never-smokers, but not in smokers or ex-smokers.

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