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

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.

Follow up period: 2 weeks.

Setting: hospital clinics in Glasgow, UK

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.

Response to prednisolone v placebo according to smoking status in patients with stable chronic asthma

<table>
<thead>
<tr>
<th>Outcomes†</th>
<th>Mean difference (95% confidence interval)</th>
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<tbody>
<tr>
<td>Change in FEV₁</td>
<td>Current smokers (n = 14)</td>
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<tr>
<td>Prealbuterol (ml)</td>
<td>−148 (243)</td>
</tr>
<tr>
<td>Morning PEF (l/min)</td>
<td>6</td>
</tr>
<tr>
<td>Asthma control score‡</td>
<td>−0.7 to 0.6</td>
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</tbody>
</table>

* FEV₁ = forced expiratory volume in 1 second, PEF = peak expiratory flow.
†Change after corticosteroids compared with placebo.
‡16 point scale, 0 = well controlled and 6 = poorly controlled.

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.

For correspondence: Professor N C Thomson, Western Infirmary, Glasgow, UK. n.c.thomson@clinmed.gla.ac.uk

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