Review: inhaled corticosteroids slow the progression of airflow limitation in COPD


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

In patients with chronic obstructive pulmonary disease (COPD), do inhaled corticosteroids (ICSs) reduce the progression of airflow limitation?

**METHODS**

**Data sources:** Medline (1966 to February 2003), CINAHL (1982 to February 2003), International Pharmaceutical Abstracts (1970 to February 2003), and the Cochrane Controlled Trials Register, references of retrieved articles, and experts in the field.

**Study selection and assessment:** Full reports of randomised controlled trials of ICSs in patients with COPD, had ≥1 year of follow up, examined change in FEV₁ over time, patients with asthma were excluded, and patients were studied when COPD was stable.

**Outcomes:** Progression of airflow limitation measured by annual rate of change in FEV₁.

**MAIN RESULTS**

8 trials (n = 3715) were included. All trials were >2 years in duration (range 24–40 mo). The ICSs studied were fluticasone, triamcinolone, budesonide, and beclomethasone. ICSs reduced the rate of decline in FEV₁ more than did placebo (table). Meta-analysis with trials of high-dose ICS regimens (4 trials, 2416 patients) also favoured ICSs (table).

**CONCLUSION**

In patients with chronic obstructive pulmonary disease, inhaled corticosteroids reduce the progression of airflow limitation.

**Abstract and commentary also appear in ACP Journal Club.**

**Inhaled corticosteroids vs placebo for chronic obstructive pulmonary disease at 24–40 months**

<table>
<thead>
<tr>
<th>Trials</th>
<th>Annual reduction in FEV₁ decline (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All trials (8 trials, n = 3715)</td>
<td>7.7 ml/y (1.3 to 14.2)</td>
</tr>
<tr>
<td>Trials with high-dose regimens (4 trials, n = 2416)</td>
<td>9.9 ml/y (2.3 to 17.5)</td>
</tr>
</tbody>
</table>

*Values are means. CI defined in glossary. A random effects model was used.

---

For correspondence: Dr E R Sutherland, National Jewish Medical and Research Center and the University of Colorado Health Sciences Center, Denver, CO, USA. sutherlande@njc.org

Sources of funding: National Institutes of Health and Wellcome Trust.