Letter to the Editor

Intranasal and inhaled corticosteroids in allergic rhinitis and asthma

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There is a strong pathophysiological link between allergic rhinitis and asthma [1]. An analysis was conducted in 1177 patients with allergic rhinitis alone (AR), asthma alone (A), and allergic rhinitis with concomitant asthma (ARA), to assess whether concurrent treatment of the upper and lower airway would lead to a reduction in intranasal corticosteroid (INS) and inhaled corticosteroid (ICS) use. Patients were identified on the basis of their medical history in keeping with their medical therapy.

Data are shown in Table 1. There was no significant difference in INS or ICS dose comparing AR vs. ARA or A vs ARA, respectively. However, pulmonary function was significantly better ($P < 0.05$) in patients with ARA vs A. This finding in the lower airway would

suggest a beneficial downstream effect from treating the upper airway, in keeping with previous data showing that treating airway inflammation in the latter leads to an improvement in the former [2].

There was no significant reduction in INS or ICS use in patients with ARA compared to either AR or A, respectively, in contrary to the expectation that concomitant treatment of both conditions would have led to synergistic improvement in overall airway inflammation and, as such, to a lesser requirement for corticosteroid therapy. Although ICS dose was slightly lower for ARA vs A, this failed to achieve statistical significance. INS dose for ARA vs AR was similar suggesting that concomitant treatment of asthma in the former did not lead to commensurate reduction in INS therapy compared to the latter. This will need further evaluation as segmental bronchial provocation has been shown to reduce nasal inflammation in patients with allergic rhinitis [3], implying that treating lower airway inflammation should have led to a decrease in upper airway inflammation and hence a reduction in INS therapy.

It is unclear at present whether airway inflammation in patients with concomitant disease is more severe than

Table 1

Mean $\pm$ standard error of mean values for patients with AR, A and ARA

	AR	A	ARA	95% CI
Men/Women (<i>n</i>)	128/169	177/217	185/301	
Age (years)	39 $\pm$ 1	46 $\pm$ 1	41 $\pm$ 1	
INS dose (μ g)	214 $\pm$ 3	0	210 $\pm$ 2	
ICS dose (μ g)	0	770 $\pm$ 36	757 $\pm$ 29	–75–148
FEV ₁ (l)	3.44 $\pm$ 0.04	2.59 $\pm$ 0.05*	2.77 $\pm$ 0.04*†	0.11–0.35
FEV ₁ (% predicted)	102 $\pm$ 1	82 $\pm$ 1*	86 $\pm$ 1*†	2–8
FEF _{25–75} (l s ^{–1})	3.52 $\pm$ 0.06	2.21 $\pm$ 0.05*	2.43 $\pm$ 0.05*†	0.18–0.49
FEF _{25–75} (% predicted)	88 $\pm$ 1	57 $\pm$ 1*	63 $\pm$ 1*†	4–11

*Denotes a significant difference ($P < 0.05$) for A or ARA vs. AR, †denotes a significant difference ($P < 0.05$) for A vs. ARA, 95% confidence interval (CI) data for difference between A vs. ARA are shown.

in patients with either disease alone. Hence, one could argue that perhaps the degree of airway inflammation in patients with ARA is more severe compared to patients with either AR or A, and that the beneficial effects of concomitant therapy would have been cancelled out by the need for greater therapy in patients with ARA. This would perhaps be an area for future research.

In summary, although treating allergic rhinitis in patients with ARA resulted in an improvement in pulmonary function compared to patients with A, treating concomitant disease did not seem to lead to a reduction in either INS or ICS use.

References

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