

# PostScript

## LETTERS TO THE EDITOR

### Omega-3s and childhood asthma

In their study, Haby and colleagues<sup>1</sup> found a high intake of dietary polyunsaturated fats to be a risk factor for asthma in preschool children. They suggest that reducing the consumption of these fats represents an intervention that has great potential for lowering asthma rates. However, this may be much too broad a conclusion as it is not the total content of polyunsaturated fats in the diet but their composition that is likely to be causing adverse health effects. The problem most probably stems from the imbalance of n-6 to n-3 fatty acids.

It is estimated that, throughout much of human existence, we ate diets that contained ratios of n-6 to n-3 fatty acids of approximately 1:1 to 2:1.<sup>2</sup> However, today in the US the ratio is estimated to be greater than 10:1,<sup>3</sup> and some have estimated that it is actually more like 20:1 to 30:1.<sup>2</sup> Could it be that the increased intake of polyunsaturated fats seen in preschool asthmatics by Haby *et al* is actually just a marker for an even greater imbalance in this ratio?

In Japan the n-6:n-3 ratio in the typical diet is about 4:1, several times better than in the US.<sup>4</sup> One epidemiological study found that the rate of childhood asthma in Tokyo is 0.7% compared with a worldwide average of roughly 5%,<sup>5</sup> and there are confounding factors that could contribute to higher childhood asthma rates in Japan. For example, because a higher percentage of the Japanese population live in urban settings, the average air quality to which they are exposed is poorer. In addition, smoking is much more prevalent in Japan which means that children are more exposed to passive smoking.

Several studies support the assertion that greater consumption of oily fish, which contain high amounts of n-3, may protect against childhood asthma and can improve lung function.<sup>6,7</sup> In addition to a decrease in fish consumption, there is another less widely acknowledged factor in the large imbalance in the intake of fatty acids today. Modern livestock management techniques, which rely heavily on the use of grain feedlots, have caused great reductions in the omega-3 composition of our commercial meat supply.

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When cattle are allowed to graze freely in the warmer months, as historically they have always done, their fatty acid composition is favourably enhanced. While improving the fatty acid profile of the meat supply may not fully compensate for the many shortcomings of the modern western diet, it would certainly be a step in the right direction. Since it is estimated that a fourfold increase in fish consumption would be required to bring n-3 fatty acid consumption up to recommended levels, improvements in any other food sources would be of great value.

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### Mechanical insufflation

We read with interest the recent paper by Sivasothy *et al* on the effect of manually assisted cough and mechanical insufflation on cough flows.<sup>1</sup> The authors reported that mechanical insufflation at pressures of 20 cm H<sub>2</sub>O did not significantly increase peak cough flows and volumes for patients with neuromuscular disease (NMD) and scoliosis of more than 70°. In previous studies in which patients with NMD, including those with scoliosis, air stacked consecutively delivered volumes to the maximum volumes and pressures (often over 60 cm H<sub>2</sub>O) that they could hold with a closed glottis, cough flows were always greatly increased.<sup>2</sup> It is true that few of these patients had scoliosis exceeding 30° since the patients systematically undergo spinal instrumentation to prevent severe scoliosis. Nevertheless, we wish to suggest that it is likely that the cough flows did not appear to increase significantly in the patients with scoliosis because inadequate pressures were used and the number of patients was too small to reach levels of statistical significance. Indeed, it has been shown in animal models<sup>3</sup> and it is widely felt by patients using mechanical

insufflation-exsufflation that pressures of 35-40 cm H<sub>2</sub>O are the minimum required to be effective.<sup>4</sup>

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### Diagnosing TB

While not wishing to diminish Professor Partridge's argument that respiratory medicine needs a higher profile, there are some notable disparities between disease profiles within respiratory medicine.<sup>1</sup> The year 2001 saw a remarkable number of outbreaks of tuberculosis including the largest since chemotherapy became available.<sup>2</sup> In at least two of these outbreaks the doctor attending the index patient diagnosed asthma not tuberculosis for several months.<sup>3</sup> Part of the reason is that "Doctors don't think of tuberculosis because there isn't a (pharmaceutical) company producing goods saying 'think of TB'".<sup>4</sup>

There is a point of view which would wish to move tuberculosis into the province of infectious disease. Yet chest physicians manage 85% of cases and, as the most common symptom of tuberculosis is a cough, it is likely that this will remain so.<sup>5</sup>

As chest physicians we have a duty to all respiratory patients, not just those who happen to have a pharmaceutically fashionable disease.

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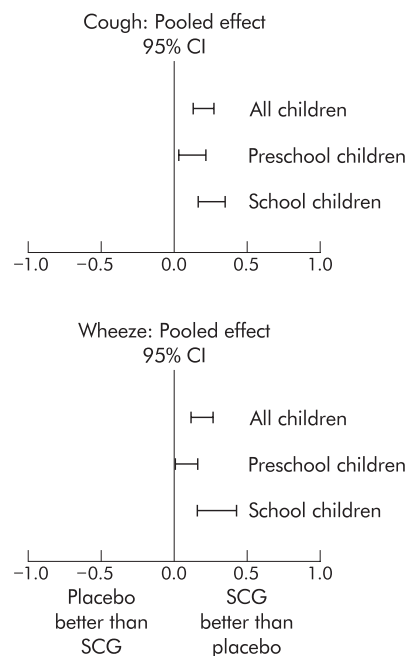
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## Inhaled sodium cromoglycate in children with asthma

We note with interest the further correspondence concerning the systematic review of inhaled sodium cromoglycate as maintenance therapy in children with asthma<sup>1</sup> from Professor M Silverman<sup>2</sup> and Dr G Laszlo.<sup>3</sup>

Professor Silverman asked the authors to carry out separate calculations of the size of the treatment effect between inhaled sodium cromoglycate and placebo for school children and pre-school children. The results of these calculations show that the mean difference



**Figure 1** 95% Confidence intervals of the mean difference between sodium cromoglycate and placebo on the symptoms of cough and wheeze.

between inhaled sodium cromoglycate and placebo is greater for school children (cough 0.26, wheeze 0.29) than for pre-school children (cough 0.12, wheeze 0.08). In both age groups these differences are significant and in favour of sodium cromoglycate. In fig 1 we illustrate these differences and the comparison with all children taken from the original review.

These results support our own conclusion<sup>4</sup> that the drug is either less effective in pre-school children or the apparent lesser effect is related to the difficulties in trials in younger children. In their reply to Silverman the authors dismiss his suggestion that sodium cromoglycate is more effective in schoolchildren by stating that results from early trials in older children were likely to be unreliable by implying that the trials were flawed. Why then did they include them in their review? This hardly seems a valid argument. Tasche *et al* state that the finding that the 95% CI tolerance interval for cough (not wheeze as in their reply) in school children includes zero also supports the view that this conclusion should be dismissed. We have already pointed out that we believe that their interpretation of the tolerance interval is incorrect and misleading.

Systematic reviews of treatments for important diseases are likely to be used in the development of treatment guidelines for doctors. In such reviews the conclusions of the authors of the review are likely to be taken into consideration. In this case the authors concluded that "there is insufficient evidence for a beneficial effect of sodium cromoglycate as a maintenance treatment in children with asthma". This conclusion was not supported by their original review and, in the case of school children, is certainly not supported by the new calculations as requested by Silverman. In their review of the 12 trials conducted in children aged 5–17 years, they classified 11 as positive and one as positive/equal. In the pooled placebo groups the reported mean daily symptom score was 0.8 and the size of the treatment effects, particularly in school children, is certainly beneficial and of clinical importance. In the light of both the statistical and clinical benefits seen with sodium

cromoglycate, we would therefore suggest that the authors be asked to reconsider their conclusions.

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