Revision of BTS guidelines for treatment of asthma

The paper by Ward et al confirms the findings of Laatinen et al showing that airways inflammation is even in patients with mild asthma. This emphasises the importance of using anti-inflammatory drugs (steroids) as soon as the diagnosis of asthma has been confirmed, even in patients thought to have only “mild asthma”. Without anti-inflammatory treatment, symptoms resulting from bronchial hyperresponsiveness are never controlled and optimal lung function is never attained. Over time, structural changes (remodelling) occur leading to a progressive decline in lung function and the risk of fixed obstruction (chronic obstructive pulmonary disease).

The present widespread dependence on bronchodilators in the UK may contribute to the fact that we have one of the highest respiratory death rates in Europe. The use of bronchodilators alone as in step 1 of the BTS guidelines should be discouraged, and treatment started at step 2 with regular inhaled corticosteroids to control symptoms and maximise peak flow rate. Bronchodilators should be used only as necessary for breakthrough wheezing. These principles have been used in Finland since 1994 with remarkable success in treating asthma. The new BTS guidelines would do well to follow their example.

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References


Authors’ reply

We would like to thank Dr Strube for his interest in our recent paper and his stimulating letter which is topical given that the new BTS guidelines on asthma management are currently in preparation.

Our study was an attempt to investigate the interrelationships between airway inflammation, airway structural change (remodelling), lung function, and bronchial hyperreactivity to methacholine in patients with mild to moderate symptomatic asthma.

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The editors will decide as before whether to also publish it in a future paper issue.

Our paper is supportive of a further point, adding to work from others, which we feel is potentially substantive, of possible importance to future guideline considerations, and perhaps relates to some of Dr Strube’s concerns. The potential paradigm shift is that determining appropriate treatment only by reference to symptoms and lung function, as in current international and draft BTS guidelines, or even against indices of inflammation, may be oversimplistic, with prolonged treatment necessary to benefit airway remodelling reflected by improvement in BHR. It should be recognised that this remains a hypothesis and, pragmatically, it is of interest that the inclusion of BHR as an asthma management tool in the UK is not resourced and is not currently practicable.

We also realise that the demanding and detailed preparation of the BTS asthma guidelines has followed a due process of a draft on the available evidence base with “levels of evidence” leading to “grades of recommendation” and, in turn, to “recommended best practice”. If appropriate pathophysiological research relevant to the clinical questions does not exist, it cannot be included. We feel that longitudinal data that seek to integrate information on airway inflammation, airway remodelling, lung function, and bronchial hyperreactivity and the effects of treatment are required. Such work, though demanding, is possible and would require multidisciplinary cooperation, dialogue, and appropriate support.

Chris Ward is a European Respiratory Society long term research fellow. The work was also supported by Australian NHMRC and a grant in aid from Glaxo Smith Kline.

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References


4 http://www.brit-thoracic.org.uk/guide/guidelines.htm


Chronic respiratory failure

The recent case report by Smyth and Riley describes an extremely uncommon chronic respiratory failure due to hyperventilation secondary to brainstem stroke, and documents a new treatment option with medroxyprogesterone acetate.

We recently saw two patients also with central hyperventilation resulting in chronic type II respiratory failure and treated both with, among other things, medroxyprogesterone acetate (30 mg twice daily) with good results. The first patient, a 69 year old man with a medical history of glomus caroticum resection was known from birth to have a hypothalamic disease (FEV1/VC 68%) but his hypoxic ventilatory response was markedly decreased and his hypercapnic ventilatory response was absent. The patient was treated with acetazolamide, theophylline, and medroxyprogesterone acetate and his blood gas tensions improved within days to normal values (Pao, 10.3 kPa, Paco, 5.1 kPa).

The second patient, a 38 year old woman, was a 38 year old woman, was known from birth to have a hypothalamic pituitary gland deficiency with (stable) adipsiotis (quetelot index 53). She had complained of weakness, general malaise, and dyspnoea on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department. Arterial blood gas analysis revealed hypoxycaemia and marked hypercapnia (Pao, 8.0 kPa, Paco, 7.2 kPa). She probably suffers from Pickwick syndrome and formal hyperventilation on several occasions before being sent to our department.

It has been shown that medroxyprogesterone acetate also acts on the peripheral chemoreceptors and decreases PaCO2, to normocapnic values and increases Paco to almost normocapnic values in hypercapnic and hypoxic patients with COPD. In conclusion, we agree with Smyth and Riley that medroxyprogesterone acetate can be used in patients with central hyperventilation disorders.

References

1. Smyth R, A,Yehezkel, M, Wagenaar P O Box 9101, Nijmegen 6500 HB, The Netherlands; b.gootsma@long.amc.nl

Caffeine and exhaled nitric oxide

We read with interest the paper by Bruce et al which reported a significant decrease in exhaled nitric oxide (NO) levels 1 hour after caffeine consumption. However, we do not believe that this study has fully clarified the relationship between caffeine consumption and exhaled NO levels.

When ascertaining the normal ranges for offline exhaled NO measurements we observed that some individuals had raised exhaled NO levels after caffeine consumption. To further clarify this effect, exhaled NO (parts per billion (ppb)) levels were measured at baseline and 0.5 and 1 hour after drinking a hot cup of coffee in 18 healthy non-smokers. However, we do not believe that this study has fully clarified the relationship between caffeine consumption and exhaled NO levels.

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was described as licentious even by the standards of his contemporaries. Calvin Wells reported that he was obese and he languished in habitual lethargy, perhaps because of chronic illness. Ptolemy VI Philometor (case 5) was portrayed also developed extreme obesity and used to fall asleep during social and political events. Athenaeos wrote: “One day, Aristomenes, his Prime Minister and chief advisor, had the effrontery to nudge the king awake when he dozed off during a diplomatic reception.”

Ptolemy VIII Evergetes II (case 6) was so grossly obese that he had a man on either side to help him walk. He was idle, drunken, and extravagant in his lifestyle. From these descriptions it is clear that obesity was present in all of them and, at least four of the seven kings, there were reports of daytime somnolence. This dynasty was probably the first reported family with sleep disordered breathing that had a familial predisposition.

References
3 Strabo. XIX: 1. 5.
5 Polybius XXXIX: 7.
6 Posidonius. Athens, XII. 549c.

Figure 1 The pedigree of the Ptolemaic dynasty (shading indicates affected members).
Caffeine and exhaled nitric oxide

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Thorax 2003 58: 281
doi: 10.1136/thorax.58.3.281-a

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