LETTERS

Role of breathing exercises in hyperventilating subjects

Thomas and colleagues reported breathing training leading to improvements in asthma-specific health status and other patient-centred measures.1 These included Asthma Quality of Life Questionnaire (AQLQ) scores, Hospital Anxiety and Depression (HAD) anxiety, HAD depression, Nijmegen scores and Asthma Control Questionnaire (ACQ) scores. The significant improvement in all the above stated scores except the last one at 6 months after the intervention could be due to a few inherent biases. This was discussed in our weekly journal club.

First, most of the population studied were hyperventilating subjects, as evidenced by the mean Nijmegen scores in both groups of >23. Breathing training might therefore have helped these hyperventilating subjects. Second, as stated in the article, most subjects with chronic disease might therefore have helped those hyperventilating subjects, but without symptoms of hyperventilation. Each randomisation group therefore had 50% of subjects with high Nijmegen scores (>23) and 50% with low scores; this is stated in the Methods section and in the statistical analysis section where we state: “We also assessed whether the Nijmegen Questionnaire (a screening tool for symptomatic hyperventilation) score (<23 or >23) or physiological evidence of hyperventilation influenced response to breathing retraining”. As reported in the Results section under the heading “Influence of hyperventilation markers on response to breathing training”, no difference in response to breathing training was found between high and low scorers of the Nijmegen questionnaire, nor between those with low and higher carbon dioxide tensions at baseline. The results imply that this intervention can help many patients with impaired asthma-related health status, regardless of symptomatic or physiological evidence of hyperventilation.

The second point concerns the generalisability of the findings. As detailed in the Consort diagram, 516 subjects out of 3139 invitation letters (outlining the study protocol) responded with interest—a response rate of roughly 1 in 6— and 183 subjects were randomised. Recent work has shown that typical asthma clinical trials recruit a far lower proportion of potentially eligible subjects than ours,1 usually in the order of 2%, and we know of no community-based controlled trials in asthma that have achieved a better recruitment rate. The point on generalisability applies to all randomised controlled trials but we feel that our study, because of the recruitment strategy, is likely to have better external validity than the trials on which current guidelines are based.

Finally, it is noted that the control group receiving asthma education achieved within-group benefits and a significant reduction in exhaled nitric oxide concentration. We agree with these observations, and also with the suggestion that pharmacotherapy and asthma education are vital aspects of asthma management. However, the within-group improvements from baseline and the greater improvements in patient-centred end points noted at 6 months in the breathing therapy group compared with the education group point to the possibility that this intervention may be an effective one for patients with impaired quality of life despite pharmacotherapy, and one that may benefit many patients with asthma. Future studies should investigate whether breathing exercises have additional benefits to effective education.

M Thomas,1 I D Pavord2

1Department of General Practice and Primary Care, University of Aberdeen, Aberdeen, UK; 2Institute for Lung Health, Glenfield Hospital, Leicester, UK

Correspondence to: Dr M Thomas, Centre of Academic Primary Care, School of Medicine and Dentistry, University of Aberdeen, Foresterhill Health Centre, Westburn Road, Aberdeen AB25 2AY, UK; mikethomas@doctors.org.uk

Competing interests: None.

Provenance and peer review: Not commissioned; not externally peer reviewed.

Accepted 18 May 2009

Thorax 2009;64:824. doi:10.1136/thx.2009.120048

REFERENCES


Caesarean section and asthma

Roduit et al observed an association between caesarean section and asthma at the age of 8 years in a large group of Dutch children, and attribute the development of asthma partly to the mode of delivery, possibly through a different and delayed pattern of intestinal colonisation of micro-organisms.1 Although this hypothesis is most interesting, in their discussion the differential reasons for caesarean sections were not addressed. As they state themselves, the prevalence of caesarean section in the Netherlands is low and elective caesarean section is rare. Because of this, the Dutch population of children born by caesarean section might be a highly selected group. One of the main reasons a caesarean section is conducted is a disproportion between the pelvic aperture and the fetal head circumference, and a large neonatal head circumference has been reported as a risk factor for asthma,2 for any atopic disorder when corrected for neonatal body weight,3 for
hay fever and for raised IgE for common inhalation allergens at age 11. It would therefore be most informative if the authors could provide additional data on the differences between the neonatal anthropometric data of the children with and without caesarean section, and on the indications for caesarean sections themselves. This issue is of significant importance and of clinical relevance because, if indeed a causal relationship exists between mode of delivery and development of asthma, this would certainly make an argument against elective caesarean section for non-medical reasons. It would seem that there is currently insufficient evidence to infer a causal relationship, but it certainly seems worthwhile sorting this out.

P Merkus

Correspondence to: Dr P Merkus, P O Box 9101, Nijmegen 6500 HB, The Netherlands; p.merkus@cuuk.umcn.nl

Competing interests: None.

Provenance and peer review: Not commissioned; not externally peer reviewed.

Accepted 30 March 2009


REFERENCES


Caesarean section and asthma: alternative explanations?

In their detailed analysis of almost 3000 children followed from birth until the age of 8 years, Roduit et al showed that children born by caesarean section have a higher risk of asthma than those born by vaginal delivery. Surprisingly, the authors offer only one explanation for this finding—namely, delayed microbial colonisation—whereas we believe other mechanisms cannot be excluded.

As an alternative hypothesis we propose to investigate the possibility of confounding by factors already present at/before birth. This hypothesis is supported by studies showing that immunological parameters in cord blood are different between children born by vaginal delivery and those born by caesarean section. One such factor could be head circumference which has been repeatedly found to be related to increased IgE and the development of asthma and related disorders,1,2 and babies born by caesarean section probably have relatively high values.

J C van der Wouden, R M D Bernsen

1. Department of General Practice, Erasmus MC, University Medical Center, Rotterdam, The Netherlands; 2. Department of Community Medicine, United Arab Emirates University, Al Ain, United Arab Emirates

Correspondence to: Dr J C van der Wouden, P O Box 2040, Rotterdam 3000 CA, The Netherlands; j.vanerwouden@erasmusmc.nl

Competing interests: None.

Provenance and peer review: Not commissioned; not externally peer reviewed.

Accepted 26 April 2009

Thorax 2009;64:825. doi:10.1136/thx.2009.117135

REFERENCES


Presence of MBL in airways: is it a disease severity marker or an additional host defence mechanism?

We welcome the paper by Fidler and colleagues reporting the presence of mannose-binding lectin (MBL) in infected airways.1 MBL is an important acute phase protein with pro- and anti-inflammatory immunomodulatory functions.2 The collectin family comprises surfactant protein (SP)-A, SP-D and MBL, of which the latter is mostly present in peripheral blood while the other two are mostly located in the lung.3 We agree with Fidler et al that MBL might contribute to lung host defence by acting locally at the aerialway surface because of its similar structure to lung collectins and its presence at a physiological level in the lung. It is possible, however, that the presence of MBL in the bronchoalveolar lavage (BAL) fluid of infected children might just be a marker of lung infection or disease severity. The data of Fidler et al clearly show a trend suggesting that MBL was more consistently detectable in acute than in chronic diseases; this may simply be a correlate of alveolar epithelial permeability. A similar study performed by our group on HIV-infected adults showed that the levels of MBL in BAL fluid were undetectable even when present in serum. The levels of SP-D in the same study were not significantly different in lung fluid from HIV-uninfected and HIV-infected individuals with a high CD4 count (≥200), but were raised in HIV-infected individuals with a low CD4 count.4 We tested the hypothesis that levels of SP-D or MBL in HIV-infected individuals would be lower than in HIV-uninfected individuals, but this was not the case. The phenomenon that levels of defence factors are poorly associated with protection has also been shown with other defence factors such as antibodies.

In conclusion, we totally agree with Fidler et al that future studies should focus on measuring the functional aspect of collectins. Functional assays will help to determine whether the presence of MBL in the lung acts as an additional host defence or whether it is just a marker of disease severity.

K C Jambo, S Gordon

Pulmonary Immunology Group, Liverpool School of Tropical Medicine, Liverpool, UK

Correspondence to: K C Jambo, Pulmonary Immunology Group, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool L3 5DA, UK; kjambo@liverpool.ac.uk

Funding: This article has been written with funding from the Wellcome Trust and Commonwealth Scholarship Commission.

Competing interests: None.

Provenance and peer review: Not commissioned; not externally peer reviewed.

Accepted 15 April 2009

Thorax 2009;64:825. doi:10.1136/thx.2009.115964

REFERENCES


Thoracic ultrasound: an important skill for respiratory physicians

We read with interest the article by Qureshi and colleagues describing thoracic ultrasound (TUS) characteristics for the detection of malignant pleural effusions.3 This relatively simple bedside technique has been routinely performed by the respiratory physicians in our department in a busy general hospital for the last 4 years, resulting

Thorax September 2009 Vol 64 No 9

825
Caesarean section and asthma

P Merkus

Thorax 2009 64: 824-825
doi: 10.1136/thx.2009.115345

Updated information and services can be found at:
http://thorax.bmj.com/content/64/9/824.3

These include:

References
This article cites 5 articles, 2 of which you can access for free at:
http://thorax.bmj.com/content/64/9/824.3#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/