

## LETTERS TO THE EDITOR

### Chickenpox pneumonia: an association with pregnancy

We read with interest the article by Dr T F Esmonde and colleagues (October 1989;44: 812-5) on the relation between chickenpox pneumonia and pregnancy. We agree with their overall conclusions, though our own observations and those of others<sup>1</sup> suggest that pregnancy may not have been the only risk factor in their patients. Dr Esmonde and colleagues do not record details of their patients' smoking histories, a crucial risk factor.<sup>2</sup>

Over the last two years we have cared for 32 adult inpatients with chickenpox (mean age 24.7 (SD 6.3) years), of whom seven had symptoms and radiological evidence of pneumonia. Of the patients with pneumonia, two were pregnant, and both were smokers. Smoking was the only risk factor in four patients, and one patient was diabetic. We also treated six pregnant or puerperal women without pneumonia (three in the last trimester), of whom only one smoked. Although only four of the 14 smokers with no other risk factor had pneumonia, lung function abnormalities are often found in smokers with chickenpox, despite a normal chest radiograph.<sup>2</sup>

Immunological changes of pregnancy may be responsible for some of the increased risks of pneumonia. Attending to infected children may carry a risk of severe disease in some patients, and pregnancy may be a marker for the presence of infectious children at home. We found that three of seven patients with pneumonia had apparently contracted chickenpox from a child they were caring for, compared with only one of 25 without pneumonia ( $p < 0.05$ , Fisher's exact test). Measles mortality is associated with overcrowding, close contact, and (by implication) a large infectious dose.<sup>3</sup> A case-control study of the association between exposure to the source case of chickenpox and the severity of the resultant illness would be most interesting.

Finally, although acyclovir is not of proved benefit in chickenpox pneumonia, we would advise its use in the patient with evidence of early or established pneumonitis due to varicella zoster, at a dose of 10-15 mg/kg three times a day.

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**AUTHORS' REPLY** We are grateful for these comments. Two of our three patients smoked (10 and 20 cigarettes daily) and one did not. It is an interesting suggestion that pregnancy might be a marker for the presence of infectious children in the home but the form of our study did not allow us to address this question.

We concluded that the role of acyclovir was not proved in the treatment of chickenpox pneumonia and that mortality had not altered since the introduction of this drug. The recommendation of Dr Rogerson and his colleagues to use acyclovir in "early and established" cases (presumably this means all) of chickenpox pneumonia is not based on any factual evidence.

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### Sedation for fiberoptic bronchoscopy

Dr MP Shelley and colleagues (October 1989;44:769-75) concentrated on the various sedatives used during fiberoptic bronchoscopy but only briefly mentioned the local anaesthetic technique; yet this, perhaps more than the sedative, determines the acceptability of the procedure to the patient.

In the 1986 survey of bronchoscopic practice in the UK, lignocaine was the most commonly used local anaesthetic and only 7% of respondents used cocaine. The anaesthetic was administered via the bronchoscope in most and 15% of respondents used the transcrucoid route. In a study primarily concerned with the effect of local anaesthetic agents on lavage yield and macrophage function,<sup>1</sup> we were impressed by the local anaesthesia produced by the transcrucoid route and also with the superiority of cocaine (4-6 ml 5% cocaine: 200-300 mg) as the local anaesthetic. This has now become our standard anaesthetic technique in this hospital. The preference for the transcrucoid route, for both operator and patient, has recently been confirmed.<sup>2,3</sup> We are unaware of a formal comparison of cocaine and lignocaine as anaesthetic agents at bronchoscopy. We recommend that other centres performing fiberoptic bronchoscopy consider changing to the transcrucoid instillation of cocaine.

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### Postpneumonectomy pulmonary oedema

Our experience with postpneumonectomy pulmonary oedema supports the work of Dr L Verheijen-Breemhaar and colleagues (April 1988;43:323-6). We found no significant differences between three patients with postpneumonectomy pulmonary oedema following right pneumonectomy and 10 patients with uncomplicated postoperative

courses in age, preoperative pulmonary function, blood gases, intraoperative blood loss, or operative time. The 24 hour net fluid balance, however, was 86.4 (SD 10) ml/kg for patients with postpneumonectomy pulmonary oedema and 47 (19) ml/kg for those without ( $p < 0.008$ ). We agree that most existing data implicate excessive fluid administration in the pathogenesis of this condition, though application of an equivalent haemodynamic stress by left atrial Foley balloon inflation produced no increased susceptibility to postpneumonectomy pulmonary oedema, suggesting that the decreased oncotic pressures resulting from excessive fluid administration may be important.<sup>1</sup>

These data suggest that postpneumonectomy pulmonary oedema might be prevented if safe guidelines for fluid administration were established. Unfortunately, there appears to be no consensus on this matter. One manual advises that "for the first 24 hours it is wise to limit the baseline fluids to 40 ml/kg given as 5% dextrose in water" after pulmonary operations.<sup>2</sup> A leading anaesthesia text suggests 8 ml/kg/h intraoperatively for thoracotomy.<sup>3</sup> Neither provides specific guidelines for treatment after a pneumonectomy.

Our data suggest important differences in postpneumonectomy fluid management between different institutions. We were struck that one Dutch patient developed postpneumonectomy pulmonary oedema with a net positive balance of only 1000 ml (roughly 15 ml/kg/24 h), yet two of our patients developed no difficulty despite a net balance exceeding 70 ml/kg/24 h. Perhaps individual variations in preoperative hydration, cardiac reserve, residual pulmonary lymphatic capacity, and pulmonary endothelial permeability affect the fluid volume that may be safely given.

We caution that the safe postpneumonectomy fluid threshold is variable and may be less than 15 ml/kg/24 h in some patients. It seems likely that postpneumonectomy pulmonary oedema cannot be completely eliminated, but careful management of fluid intake may lessen its incidence and severity.

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## BOOK NOTICE

**Crofton and Douglas' Respiratory Medicine**. 4th edition. Edited by A Seaton, D Seaton, AG Leitch. (Pp 1215; £79.50.) Oxford: Blackwells, 1989. ISBN 0632 019735.

This well known and excellent textbook has been extensively rewritten by the three new editors. It is in general an extremely well presented and readable text with illustrations, including the many radiographs, of a very