LETTERS TO THE EDITOR

Changes in asthma prevalence

Prevalence of asthma symptoms and percentage fall in peak expiratory flow rate (PEFR) with exercise in 1973 and 1988

	1973 (n=817) %	1988 (n=965) %	1988–1973 % 1973
Asthma ever	5·5	12·0	118
Wheeze ever	17·0	22·3	31
Wheeze in the past 12 months	9·8 (n=812)	15·2 (n=960)	55
>45% fall in PEFR on exercise	0·4	1·3	238
45–36% fall in PEFR	0·5	1·0	111
35–26% fall in PEFR	1·1	1·7	60
≤25% fall in PEFR	98·0	95·9	−2

SIR,—There have been many studies of asthma prevalence, though the widely varying methods used makes comparisons over time difficult. Anderson reviewed prevalence surveys of wheezing illness in the United Kingdom and found the data did not support the assertion that there has been an increase in the proportion of the child population who experience wheezing illness.[1]

The repeat survey by Burr *et al* used identical methodology to their earlier survey and they also avoided the problem of changes in illness labelling.[2] Their study is very important to our understanding of trends in asthma mortality and morbidity. The authors of this excellent study might have placed more emphasis on the appreciable prevalence changes in the severe end of the asthma spectrum. When looked at in this way, the study provides support for a small increase in the prevalence of wheezing illness and more noticeable increases in asthma labelling and current wheeze (past 12 months). It also showed that the percentage increase in the proportion of the population with a fall in peak expiratory flow rate with exercise was greater the larger the fall in peak expiratory flow rate (table), suggesting asthma is becoming more severe. This disproportionate increase in the prevalence of severe asthma is consistent with surveys of hospital admissions in both New Zealand[3] and the United Kingdom,[4] which have found evidence for an increase in admission rates for severe asthma in children.

There is an urgent need to explain the increase in prevalence of severe asthma and this must include the possibility that current therapy has an adverse effect on morbidity.[5]

E A MITCHELL
Department of Paediatrics, School of Medicine, University of Auckland, New Zealand

H R ANDERSON
Department of Public Health Sciences, St George's Hospital Medical School, Cranmer Terrace, London SW17 0RE

1 Anderson HR. Is the prevalence of asthma changing? *Arch Dis Child* 1989;**64**:172–5.
2 Burr ML, Butland BK, King S, Vaughan-Williams E. Changes in asthma prevalence: two surveys 15 years apart. *Arch Dis Child* 1989;**64**:1452–6.
3 Rea H, Sears M, Mitchell E, Garrett J, Mulder H, Anderson HR. Is asthma becoming more severe? *Thorax* 1987;**42**:736.
4 Anderson HR. Increase in hospital admissions for childhood asthma: trends in referral, severity and readmissions from 1970 to 1985 in a health region of the United Kingdom. *Thorax* 1989;**44**:614–9.
5 Mitchell EA. Is current treatment increasing asthma mortality and morbidity? *Thorax* 1989; **44**:81–4.

Nutrition in cystic fibrosis

SIR,—In response to Dr David's excellent and comprehensive review of current management in cystic fibrosis,[1] we would like to report our own experience in dealing with nutritional aspects of the disease. This is important as malnutrition may affect pulmonary function,[2] and nutritional repletion not only improves linear growth but also can be shown to produce a reversal in the trend for deteriorating lung function[3] and aid immune competence.[4]

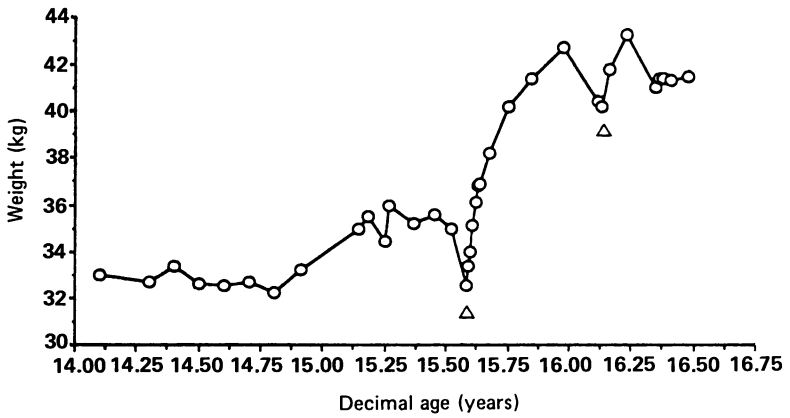
We have not found any advantage in the use of protein hydrolysates for infants requiring formula feeds. Although on paper such feeds composed of amino acids/peptides, glucose polymers, and medium chain triglyceride should be absorbed without added pancreatic enzyme supplements, in our experience diarrhoea is better controlled and weight gain enhanced with supplements. Casein hydrolysates that have a high carbohydrate content and relatively low energy density (2·814 kJ/ml or 0·67 kcal/ml), offer little benefit over cheaper standard baby milks of similar or higher energy density that are readily supplemented with glucose polymers or carbohydrate/fat mixtures to achieve energy densities of 3·36–4·2 kJ/ml (0·8–1·0 kcal/ml).

We have also found overnight enteral feeds useful in maintaining or improving nutrition. Many centres are, however, reluctant to employ nasogastric feeding because of patient resistance, concerns that tubes will be coughed up, and problems with enzyme delivery. Our experience is that polyurethane tubes are well tolerated providing medical and nursing staff and parents adopt a positive attitude. Percutaneous gastrostomy may be more acceptable for patients requiring long term nutritional support but gastrostomy is not without complications. Specialised feeding formulas are usually adopted to avoid giving enzyme supplements. Alternatively, many centres wake the child once or twice through the night to administer extra enzymes, yet satisfactory weight gain can be achieved using whole protein feeds by giving enzymes at the start and finish of a continuous overnight feed as the following case report illustrates.

Case report

A girl of 14 years had gained weight poorly for more than four years, falling from the 10th to well below the 3rd centile despite encouragement to take a high energy, high protein diet, nutritional supplements (Fresubin, Fresenius), and the use of a microsphere pancreatic enzyme preparation. She had chronic lung disease (forced expiratory volume in one second <30% predicted) and *Pseudomonas aeruginosa* colonisation. After admission with an increased productive cough and weight loss a fine bore 'Silk' nasogastric tube (Silk and Corsafe 6 French gauge 56 cm; E Merck Ltd) and Kangaroo 330 enteral feeding pump (Sherwood Medical) were used to deliver an overnight (10 hour) feed (Fortison Energy Plus; Cow and Gate) which, after four days, provided 65% of her recommended daily intake for energy and 86% of recommended daily intake for protein (6370 kJ (1500 kcal) and 50 g protein). Pancreatic enzymes (Pancrease, Cilag) were given at the start and end of the feed period only in a dose equivalent to that used with main meals. Although the patient had a chronic cough the tube, which was left in situ throughout the feed period, was well tolerated. Diarrhoea did not occur despite the use of a 'non-elemental' feed and weight gain was rapid (see figure). After a two week course of intravenous antibiotics the patient was discharged to continue overnight feeds at home. An increase of 10·2 kg was achieved over five months.

Continuous overnight nasogastric feeding without frequent enzyme supplementation appears a simple solution to nutritional



Effect of supplementary nasogastric feeds on weight gain. Feed period is indicated by arrows.