

# PostScript

## LETTERS

### Euroaspirations

We read with interest the recent article of Papadopoulos *et al.*<sup>1</sup> The Euro was accepted with remarkable alacrity by the peoples of the eurozone. The franc, mark, guilder, lira, and other currencies were effectively replaced within one week in February 2002. The euro changeover was effective, efficient, and essentially painless. The currency has prospered with 20% growth since its introduction and is now worth approximately 70 pence sterling and one US dollar 15 cents.

In the first few months of the euro, we too noticed several children presenting to our emergency department having decided to see how well the euro went down. These were children in the oral exploratory ages of 1-3 years. As a consequence and for guidance to our emergency department colleagues, a "eurometer" was made (fig 1). Some of the euro coins are small and some ended up in the upper airway, the oesophagus, and the stomachs of toddlers and preschool children (fig 2). We have seen 22 such patients in first eight months of this year. A few euroretrievals were required.

The UK's euro debate sees the euro as a threat to the national pound. Has anyone else considered the euroaspiration? "Should the UK stay in or out of the euro?" ask the headlines? Sweden plunged into controversy when it consulted its people in a euro

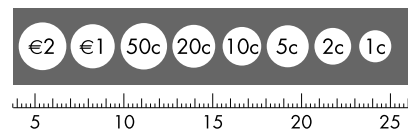


Figure 1 Eurometer.

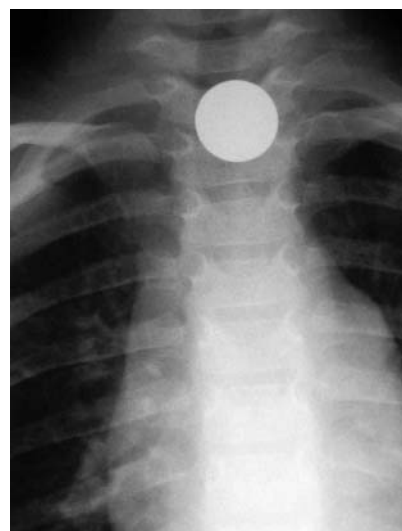


Figure 2 1 Euro coin in upper oesophagus.

referendum. Denmark is sitting on the fence. The UK is discussing and dallying on the issue.

All accident and emergency departments in the eurozone ought to be cognisant of the potential of the 1 cent coin to lodge in the oesophagus or sit in the upper airway. The differential diagnosis of any toddler with acute upper airway obstruction should, in the eurozone, include eurostridor.

We, like Dr Papadopoulos and colleagues, warn that if one aspires to euroconvert, one must accept euroaspirations.

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### Thrombocytopenia is predictive of lethality in severe childhood falciparum malaria

Moulin and others<sup>1</sup> reported that thrombocytopenia was not a marker of severity in children suffering falciparum malaria. In a previously published study,<sup>2</sup> we have shown a highly significant association between thrombocytopenia and either severity or prognosis in childhood falciparum malaria. To our knowledge, this association had not been noted<sup>3</sup> or looked for<sup>4</sup> before.

Our study took place from October 1997 to March 1999, in the paediatric department of the Hôpital Principal in Dakar, Senegal, where clinical presentation, WHO criteria of severe malaria, and platelet count were prospectively recorded. Of 288 falciparum cases, 215 matched the 2000 WHO definition of severe malaria. Median platelet counts were lower (98 000/mm<sup>3</sup> versus 139 000/mm<sup>3</sup>;  $p < 0.02$ ) among severe cases than in mild cases, and in children who died ( $n = 26$ ) than among those who recovered (68 500/mm<sup>3</sup> versus 109 000/mm<sup>3</sup>;  $p < 0.002$ ). In severe cases, children presenting with a platelet count  $< 100\,000/\text{mm}^3$  were more likely to die (20%, 22/110) than those with higher platelet count (3.8%, 4/105; odds ratio (OR) 6.31, 95% confidence interval (CI) 2.0 to 26.0;  $p < 0.0003$ ). Moreover, multivariate analysis identified thrombocytopenia as an independent predictor of death (OR 13.3, 95% CI 3.2 to 55.1;  $p < 0.0001$ )—that is, when the effect of cerebral malaria, respiratory distress syndrome, severe anaemia, and other severe malaria criteria was taken into account.

The absence of an association between thrombocytopenia and clinical malaria severity in the samples studied by Moulin and others does not prove its non-existence. Moreover, their study suffers from several limitations that may explain the discrepancy between their and our conclusions. First, they have observed only four deaths among 234 malaria cases. Their survey was consequently powerless to establish any association between thrombocytopenia and lethality.

The low level of lethality among severe cases (3.5%, 4/112) also suggests that clinical presentations observed in the Moulin *et al* study were less life threatening than in ours, even if 69 of their severe cases have been admitted in the same paediatric department where our study was conducted previously. It is well established that the case fatality rate varies according to clinical presentation<sup>5</sup> and definition of severe falciparum malaria criteria.<sup>6</sup> Thus any analysis of prognostic factors of malaria lethality must take into account the composition of the sampled cases in terms of clinical presentations, for example, analysing the different syndromes separately. In our study, the association between thrombocytopenia and lethality was significant among children with cerebral malaria or respiratory distress but not among children only presenting with severe anaemia, convulsions, or hypoglycaemia. It is possible that the composition of the severe cases sampled by Moulin and others may have confused the association. Age is another confounding factor that was not controlled in the Moulin *et al* study. We showed that age was associated with both lethality and thrombocytopenia.

Furthermore, the exposure of children to malaria may be not so different between the samples studied by Moulin and others. In large areas of Dakar, the level of transmission is very low, less than one infective bite every 10 years. It is thus likely that a significant proportion of the children from Dakar, and to a less extent from Libreville, had never been infected before by *Plasmodium falciparum*. Without reliable information about the exact location of their habitat, it is inappropriate to estimate their level of previous exposure to malaria in urban areas where the level of transmission is heterogeneous.

Finally, it must be stressed that in the studies of prognostic factors of lethality, the occurrence of death rather than substitute variables, for example, severe malaria criteria, is the variable of interest. Among children suffering severe falciparum malaria, thrombocytopenia ( $< 100\,000/\text{mm}^3$ ) should be considered as predictive of a fatal outcome, especially in those with cerebral malaria or respiratory distress.<sup>2</sup>

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### Judged by our legacy

Current global health strategies focus on important issues in child health, such as the eradication of polio by 2005 and the drastic reduction of child mortality by the year 2010. These short term goals are essential to provide the necessary political focus and public health impetus. However, the ultimate success of our current health initiatives will be measured by their ability to provide sustained health to present and future generations.

At the beginning of the third millennium we celebrated the tremendous strides that health care has taken in the past century, while rightfully reflecting on current global inequities in access to health care. Reflection also emphasises the unequalled human impact exerted on our planet in the 20th century and the environmental responsibility that faces health care providers in the 21st century.

As paediatricians we need to provide an articulate voice for all the children of our planet, both for current and future generations. Current initiatives stir more emotion and elicit more political commitment, but protecting the health of future generations is as much our ethical responsibility, as the reduction of present mortality. Short term goals are important, but we have to redefine what is meant by the attainment of child health for all, within the framework of sustainability. The real challenge facing our generation is to improve child health for all, now and in the future.

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### Response to salbutamol by wheezy infants

We previously reported a randomised controlled trial of  $\beta_2$  agonist in wheezing infants.<sup>1</sup> Within this paper we reported no measurable physiological response to 400  $\mu$ g salbutamol. Pulmonary function tests were performed after the completion of a symptom diary study and prior to enrolment in a study of inhaled corticosteroid.<sup>2</sup> Raw values of maximum flow at functional residual capacity ( $V'_{maxFRC}$ ) and bronchodilator response were reported as there were no suitable standard values for  $V'_{maxFRC}$  available, either from our laboratory or internationally.

Subsequently, collaboration between centres in the UK and USA has produced enough

**Table 1** Changes in pulmonary function following salbutamol in infants grouped by baseline  $V'_{maxFRC}$  Z score

	Baseline Z score $\leq -2$	Baseline Z score $> -2$
Number	7	22
Mean change (SD) in $V'_{maxFRC}$ (ml/s)	18.7 (19.3)	-2.38 (31.8)
Mean change (SD) in $V'_{maxFRC}$ Z score	0.37 (0.34)	-0.05 (0.39)*
Mean % change (SD) from baseline $V'_{maxFRC}$	30.6 (24.8)	-1.8 (18.7)**

\*p<0.05, \*\*p<0.005.

data to allow calculation of standard deviation scores (Z scores) for  $V'_{maxFRC}$ .<sup>3</sup> We have now reanalysed our data in the light of this new information.

Of 29 subjects, seven had abnormal baseline  $V'_{maxFRC}$  Z scores ( $\leq -2$ ). In comparison with subjects with normal baseline  $V'_{maxFRC}$  (Z score  $> -2$ ) these patients showed a significantly greater response to salbutamol (see table 1). Six of seven subjects showed a significant change in  $V'_{maxFRC}$  ( $>12.5\%$  or  $>2 \times$  group coefficient of variation) compared to 3/22 in the normal group (see fig 1). This suggests that patients with identifiable obstruction at the time of testing are more likely to respond to inhaled salbutamol.

The evidence for efficacy of bronchodilators in early life is lacking. Although many intervention studies have been performed, the majority have suboptimal methodology or insensitive outcome measures.<sup>4</sup> Infant pulmonary function studies are usually performed at a time the child is asymptomatic due to concerns of sedating ill patients, reducing the opportunity to measure a response. Due to the protocol design of our study, subjects could only have pulmonary function measured during a two week period<sup>1,2</sup> and thus, although not acutely unwell on the day of testing, may have had a recent exacerbation or upper respiratory tract infection with persisting changes of airway obstruction. This may have allowed us to measure this response, although this was not apparent without the use of an appropriate reference standard.

Post hoc subgroup analysis of this kind should always be interpreted with caution. An alternative explanation for these findings could be regression towards the mean, with those with worst baseline function becoming more "normal". While this data involves only

small numbers and no control group, it does indicate a possible benefit of salbutamol in infants with demonstrable airway obstruction at the time of testing, and invites further studies using appropriate techniques and reference standards.

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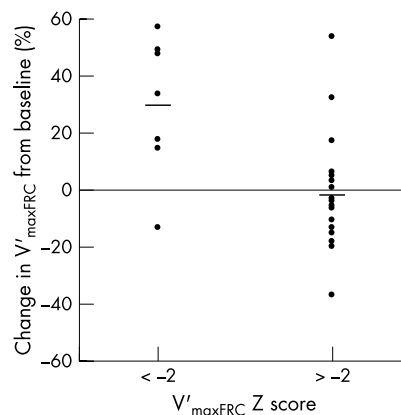
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### The use of insulin pumps improves the metabolic control in children and adolescents with type 1 diabetes

We greatly appreciated the article by Torrance and colleagues<sup>1</sup> about the use of insulin pumps and we agree with their conclusion that the benefits of continuous subcutaneous insulin infusion (CSII) outweigh the disadvantages. Our three year experience with CSII at the Juvenile Diabetes Regional Centre of Tuscany has shown that not only does this form of insulin administration enhance the compliance in children and teenagers with type 1 diabetes (T1DM), but it also represents an effective way to improve the metabolic control of our patients.

We studied the entire group of 34 (16 males, 18 females) T1DM patients aged up to 18 years followed at our centre, who in the period from January 2000 to November 2002 started CSII therapy and continued it for at least one year without interruption. At the time of attaching the pump the mean age was 14.4 years (range 9–17.8) and the mean duration of diabetes was 6.2 years (range 0.6–15.8). We found that the mean HbA1c values of the group decreased from 8.35% (SD 1.08) at the beginning of the treatment



**Figure 1** Percentage change in  $V'_{maxFRC}$  after 400  $\mu$ g salbutamol in recurrently wheezy infants grouped by baseline  $V'_{maxFRC}$  Z score.