

## CASE 2

A 10 year old boy presented to the surgery of his general practitioner with a two day history of a painful left ankle after a boy had stamped on it. This had been treated initially by the school nurse. In addition he had a swollen painful right ankle which had developed on the day of presentation after a cross country run. Radiological investigation showed no bony injury.

When he was reviewed the next day the bruising to the ankles had developed into a purpuric rash which later spread to his legs and buttocks. HSP was diagnosed and he was admitted to hospital.

Chance association between trauma and HSP is always a possibility but on discussing these cases it emerged that the general practitioner (RC) had encountered two families with a high incidence of HSP sometimes related to trauma. One family had two brothers with HSP, one of whom had developed his HSP after a territorial army exercise in Germany. The second family had a grandfather who used to drive a steam lorry. This carried guns from Vickers Armstrong Newcastle to the ship yards on the Firth of Forth. There was a steep bank on this route at Berwick where the lorry required vigorous stoking. On several occasions while being so occupied he would develop severe pain in the ankles and a purpuric rash on his lower legs which at the time he attributed to the heat from the open boiler door!

## Reference

- <sup>1</sup> Heng MCY. Henoch-Schönlein purpura. *Br J Dermatol* 1985;112:235-40.

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## Immunoglobulins in very low birth-weight premature infants

Sir,

Conway *et al* reported on the immunoglobulin supplementation of very low birthweight (VLBW) neonates.<sup>1</sup> The IgG concentrations measured in the control group were, however, considerably higher than those reported for preterm babies born between the 29th and 32nd weeks of gestation.<sup>2</sup> The higher absolute values might have originated from the different methods of determination and statistical analysis. Nevertheless, not only were the absolute concentrations higher but also the postnatal relative decrease in IgG concentration was less marked than expected.

These differences are especially interesting for us as in our unpublished follow up investigation on VLBW neonates we also found unexpectedly high immunoglobulin concentrations. As practically all VLBW neonates require at least one packed red cell transfusion in the

neonatal period, so one possible factor in the background of a higher immunoglobulin concentration may be the influence of transfusions.

In order to elucidate whether packed red cell transfusions can alter immunoglobulin concentrations we measured the immunoglobulin content of 15 blood units used for transfusing babies of mean (SD) postconceptional age of 32.5 (3.4) weeks and postnatal age of 27 (13) days. The following concentrations were found (mean (SD)): packed cell volume, 60.1 (1.2)%; IgG, 10.0 (3.4) g/l; IgA, 1.43 (0.70) g/l; and IgM, 1.3 (1.65) g/l.

By knowing the amount of blood transfused (15 ml/kg) and the pretransfusion packed cell volume of the recipients, and by estimating the circulating blood volume to be 85 ml/kg<sup>3</sup> the impact of the transfusion on serum immunoglobulin concentrations could be calculated. One packed cell transfusion theoretically increased the IgG concentration by 0.93 (0.40) g/l, IgA by 0.14 (0.09) g/l, and IgM by 0.12 (0.15) g/l. Certainly, after extravascular distribution of the immunoglobulins the effect is less marked, however, presumably still not negligible.

It is suggested that in VLBW neonates the 'normal' immunoglobulin concentrations reported may reflect not only endogenous production but exogenous intake by means of the transfusions as well.

## References

- <sup>1</sup> Conway SP, Gillies DRN, Docherty A. Neonatal infection in premature infants and use of human immunoglobulin. *Arch Dis Child* 1987;62:1252-6.
- <sup>2</sup> Ballou M, Cates KL, Rowe JC, Goetz C, Desbonnet C. Development of the immune system in very low birth weight (less than 1500 g) premature infants: concentrations of plasma immunoglobulins and patterns of infections. *Pediatr Res* 1986; 20:899-904.
- <sup>3</sup> Willie L, Obladen M. *Neonatal intensive care*. Heidelberg: Springer Verlag, 1981.

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## Cardiovascular collapse after verapamil in supraventricular tachycardia

Sir,

Kirk *et al* report the occurrence of severe hypotension and death after treatment of paroxysmal supraventricular tachycardia with verapamil.<sup>1</sup> The fact that digoxin was also employed in three of the five cases is ignored. The interaction of verapamil and digoxin and their potential for producing in concert serious adverse effects and even death were reported previously.<sup>2</sup> Likewise, it is important to emphasise the authors' caution regarding the unpredictable effects of the combination of verapamil and proprano-