Correspondence

Concern over safety of SAGM blood

Sir,

Some Regional Blood Transfusion Centres are recommending for transfusion a product in which electrolytes are suspended in a saline-adenine-glucose-mannitol medium, hence the name SAGM blood. All the plasma from the donated blood has been removed, we understand, for use in the preparation of other blood products.

A Medline search has not shown any reference to the safety of this product in neonates, and we are concerned because several of our members have been urged to use it. Until the product has been properly evaluated in neonates, and possible side effects of its supernatant have been clarified, we would advise caution in its use even for top up transfusions. Moreover, it is a wholly inappropriate product for exchange transfusions, where its use would result in total replacement of the patient's plasma by a synthetic product. This especially applies to exchange transfusions carried out to provide babies with antibodies or clotting factors in cases of sepsis or haemorrhage.

We are interested to know if any readers have had experience in using SAGM blood in neonates and whether they have recognised any adverse effects.

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In some cases this 'blush' disappears when the scan is obtained through the posterior fontanelle. The best explanation for it could be the interface of numerous parallel fibres that are nearly perpendicular to the longitudinal axis of a sonographic beam passing through the anterior fontanelle.³ In other cases it does not disappear and, these might be those with PVL. On the other hand, a large and globular, coarse periventricular echodensity, often unilateral, may more likely be an ultrasonic manifestation of focal hypoxic-ischaemic lesion caused by a hypotensive insult, than PVL, which is usually bilateral.

The duration of echodensity indicating PVL is the other problem. Why did Trounce *et al*¹ prospectively, as they say, choose two weeks for it? Why not four weeks? Was this choice arbitrary or was it based on some clinical follow up results? If it was based on necropsy findings they do not provide any reliable answers as far as surviving neonates are concerned.

References

- 1 Trounce JO, Rutter N, Levene MI. Periventricular leucomalacia and intraventricular haemorrhage in the preterm neonate. *Arch Dis Child* 1986;**61**:1196-202.
- 2 McMenamin JB, Shackelford GD, Volpe JJ. Outcome of neonatal intraventricular hemorrhage with periventricular echodensity lesions. *Ann Neurol* 1984;**15**:285-90.
- 3 DiPietro MA, Brody BA, Teale RL. Peritrigonal echogenic "blush" on cranial sonography: pathological correlates. *AJR* 1986;1067-72.

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Prolonged flare and periventricular leucomalacia (PVL) in preterm neonates

Sir,

We read the paper by Trounce *et al*¹ with interest. In this article periventricular leucomalacia (PVL) was divided into three appearances: cystic, precystic, and 'prolonged flare'. The latter was defined as an appearance of relative increased echodensity in the periventricular region seen both in coronal and parasagittal views and persisting for at least two weeks but not undergoing cystic degeneration.

We wonder whether this term 'prolonged flare' comprises only 'large intraparenchymal echodensities', as defined by McMenamin *et al*² and 'globular, blotchy, coarse echoes', as defined by DiPietro *et al*,³ or whether it includes also 'small intraparenchymal echodensities'² and 'peritrichonal echogenic blush'.³ According to the necropsy results, infants with the latter two findings may or may not have PVL.^{2,3}

Drs Trounce, Rutter, and Levene comment:

Thank you for your interest in our paper. The question is that of comparison between our definition of 'prolonged flare' and alternative definitions by other groups. At the outset of our study (1983) we defined carefully a variety of ultrasound appearances. We were aware of McMenamin's definition but that of DiPietro *et al*¹ has only recently been published and was not available to us originally, or before we submitted our paper for publication to the *Archives of Disease in Childhood*. We have been impressed, on scanning many hundreds of infants, that persistent echodensity in the periventricular white matter is a common finding and is often normal, particularly when the occipital region is affected. We rarely saw this appearance in two planes, however, and if it did appear on coronal and parasagittal section it was usually transient, lasting only for a few days.

Our rigorous definition of prolonged flare was developed so that most of these appearances would not be included. On careful reading of the paper by DiPietro *et*