secondary to phlebotomy losses.[1] Recently, point-of-care analysers have been validated to decrease phlebotomy losses and minimise the need for transfusion in this population.[2] We hypothesised that the results of weekly blood investigations in stable growing preterm infants do not significantly alter clinical management.

Stable growing preterm infants <1500 g at birth were eligible for inclusion in this study in a tertiary level neonatal intensive care unit from January 2005 to October 2005. All weekly blood sampling categorised as ''growing bloods'' was evaluated once assisted ventilation was discontinued until discharge from hospital. The infants' notes were reviewed for signs of symptoms of anaemia, diuretics use or electrolyte supplements.

Two hundred and forty-five blood tests were studied from 24 infants <1500 g. Their mean (SD) gestational age was 29.8 (2.7) weeks and birth weight was 1162 (256) g. Their mean CRIB score (clinical risk index for babies) was 2.1 (2.3) and days of total parenteral nutrition were 11.3 (8.1). Five of the 24 babies were receiving diuretics (chlorothiazide or spironolactone, or both) during the study period. The average age at enrolment was 18.6 (15.3) days and 54.3 (24.0) days at discharge from hospital. One hundred and twenty-four biochemistry tests were carried out, of which 40 were normal, and none of the remaining 84 results required immediate intervention. Nine infants had alkaline phosphatase levels >1000 IU/l, although none required vitamin D supplementation. Low phosphate was documented in seven babies and, conversely, raised levels were found in 12 babies. Albumin was <30 g/l in 13/24 babies. Of 121 abnormal tests, 70 necessitated 20 red cell transfusions, although only nine cases had clinical evidence of anaemia. Therefore of 245 investigations, 21 (9%) required further management and only 12 (5%) were recognised by blood sampling alone.

Regular phlebotomy in preterm neonates rarely results in any intervention and we suggest that the use of ''growing bloods'' may be individualised based also on clinical examination. In particular, biochemical investigation in stable growing preterm infants who were not receiving diuretics did not require intervention. Further exploration of the use of other serological measures of growth and development is warranted. In addition, consideration of tests such as iron indices may be alternated with weekly growing bloods.

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Nerve blockade as a therapeutic option in severe neonatal arterial ischaemia

We report the use of regional nerve blockade in the management of arterial limb ischaemia. A female infant weighing 815 g was born spontaneously at 26 weeks' gestation. At birth the baby required resuscitation with endotracheal intubation. Soon after birth she underwent arterial blood gas analysis by direct puncture of the right radial artery. At 5 h of life her right hand was cool, with oedema of the third, fourth and fifth fingers and cyanotic discoloration of the fourth and fifth distal phalanges. The radial pulse was absent. As a cerebral ultrasound examination showed no intraventricular haemorrhage, systemic fibrinolytic treatment was started. However, this had to be discontinued after 24 h because of grade II intraventricular haemorrhage. The hand ischaemia worsened, and to restore perfusion by vasodilatation an axillary plexus block was attempted at 48 h of life.

A topical anaesthetic (lidocaine 2.5%, prilocaine 2.5% cream (EMLA, AstraZeneca)) was applied in the axillary region. The arm was abducted 90° and the elbow flexed at 110°. The axillary artery was palpated and the puncture site was infiltrated subcutaneously with lidocaine. A 24 gauge needle was then inserted high in the axilla and connected to a peripheral nerve stimulator. Once the needle was in place the stimulator was activated. On piercing the neurovascular sheath, the stimulation evoked a distal motor response. The site was then aspirated to check whether any vessels had been inadvertently punctured. Finally, 2 mg bupivacaine 0.25% was slowly injected. During the ensuing 12 h the oedema decreased and tissue perfusion was restored. Within a week the oedema had disappeared and only the tips of the fourth and fifth fingers were ischaemic. Laboratory investigations for familial thrombophilia yielded normal results. At discharge, at 90 days of life, the baby's hand was intact and local signs had completely disappeared.

Hand ischaemia, which is extremely rare in preterm infants, is most frequently due to radial and ulnar arterial cannulation for blood sampling or arterial pressure monitoring.[1] Ischaemia is usually due to vasospasm or thrombi. An indwelling catheter may damage the vascular endothelium thus causing thrombogenesis and leading to the release of vasoconstrictive factors, thereby provoking vasospasm and finally occlusion. Another possible mechanism is arterial vasospasm as a primary event.

Although the treatment of choice in the presence of a thrombotic event is fibrinolysis, this treatment has several contraindications in preterm neonates, of which preexisting haemorrhage is the first. We decided to attempt a nerve blockade to manage our infant's hand ischaemia, as this technique has known advantages.[2] First, through a sympathetic blockade it induces a vasodilatory action on peripheral vessels. Second, it acts indirectly by blocking afferent impulses and by reducing pain-induced release of catecholamines (epinephrine and norepinephrine) thus diminishing the peripheral vasoconstrictive response to stressful events.[3] The procedure seems to be safe as there have been no reports of extradural haematoma or neurological sequelae in neonates. Our patient had no adverse events and tolerated bupivacaine well. The use of caudal blockade has also been described in the treatment of arterial thromboses of the leg.[4]

In conclusion, nerve blockade, in association with low-dose fibrinolysis or when fibrinolytic treatment is contraindicated, could be useful in the management of arterial thrombosis. Studies are warranted to validate this innovative approach.

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