

Harlequin colour change in a newborn with meningitis

A baby boy born by vacuum extraction at gestation of 36 weeks had a birth weight of 2.84 kg. After 2 days of life he developed respiratory distress and poor skin perfusion, whereupon he was transferred to the neonatal intensive care unit (NICU) in December 2011. Cerebrospinal fluid culture (CSF) grew *Streptococcus bovis* type 2 i and meningitis was diagnosed. He had an episode of generalised tonic-convulsion lasting for 1 minute followed by low blood pressure for which he received a dopamine infusion for about 24 hours. At 96 hours of life, he started having episodes of unilateral blanchable erythema with a clear demarcation line entirely separating each side of the body (Figs 1 and 2). Each episode lasted for 1 to 20 minutes and alternated between the right and left side, with tendency to involve the dependent side. Monitoring in the NICU revealed no concomitant changes in blood pressure, respiratory or heart rate. The boy had about four episodes per day that were noted for 2 days. The patient was treated with penicillin for 2 weeks; repeat CSF culture was negative and there were no abnormal neurological signs on discharge.



FIG 1. An episode of harlequin colour change on day 4
Demarcation line is clearly shown on the face. The baby lays supine



FIG 2. An episode of harlequin colour change on day 5
Demarcation line is down to the genital area. Concurrent seborrhoeic dermatitis blurred the demarcation line on face. The baby lays laterally on the side with colour change

This condition is called harlequin colour change, and is an unusual cutaneous phenomenon observed in newborn infants. It manifests as transient, benign episodes of a sharply demarcated erythema on half of the infants' body, and to date few reports of this condition have appeared in the literature. However, under close observation its true frequency in newborns is reported to be close to 10%.^{1,2} Its transient and benign nature with the short duration of episodes (30 seconds to 20 minutes) might account for its under-recognition. It commonly occurs on days 2 to 5 of life but it was noted in a 9½-month-old boy.³

This condition has been reported in patients with hypoxia, during prostaglandin E1 infusion,⁴ and in patients with complex cyanotic heart disease, a history of transient tachypnoea, and in receipt of general anaesthesia.³ This is the first case report of this condition associated with neonatal meningitis. It is generally believed that the colour changes are not aetiologically related to the concurrent medical conditions as it also occurs in normal babies.^{2,5} It is hypothesised that a temporary imbalance in the tone of cutaneous blood vessels secondary to hypothalamic immaturity may be responsible.⁶

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