Correspondence

High plasma urea concentrations in collodion babies

Sir,

We were interested to read the paper from Drs Beverley and Wheeler. The authors rightly emphasise the likelihood of systemic absorption of pharmacologically active agents used topically to treat dermatoses in the neonate and report the cases of two infants born with collodion membranes who were treated with a cream containing both lactic acid and urea. We were concerned to learn that such treatment had been used in neonates at all; especially in neonates with a universal erythematous dermatosis that clearly enhances percutaneous absorption. Furthermore, one of the two infants was premature, another factor known to be associated with increased skin permeability.

No one involved in the medical care of infants can have any excuse for being ignorant of this problem, and we would urge the greatest circumspection when prescribing topicals for neonates. In our view, the topical application of systemically active agents, such as salicylic acid, lactic acid, boric acid (used as a preservative in many topical preparations), benzene hexachloride, benzyl benzoate, corticosteroids, and certain antimicrobials, such as hexachlorophane, should be avoided in neonates. Indeed, it is very rare for topical applications other than the blandest emollients to be indicated at any time during neonatal life. Sadly, we still see babies in whom this precaution is ignored.

Reference


D J Atherton and J I Harper
Hospital for Sick Children,
London WC1N 3JH

Sir.

We read with interest the report of Beverley and Wheeler on the increase in plasma urea concentration during treatment of ichthyosis with a topical urea containing agent. We recently had a similar case on our department.

She was the first child of related (first cousin) Turkish parents, born at a gestational age of 36 weeks weighing 1600 g. She had an ichthyosiform dermatosis, which was apparent immediately after birth, but there was no collodion membrane.

At first she was treated with emollient creams and during that time she had fairly constant plasma concentrations of urea, creatinine, sodium, and potassium. At the age of 46 days treatment was begun thrice daily with a cream containing 10% urea. After beginning this treatment the plasma urea concentration rose from 1.7 mmol/l to 8.4 mmol/l. There were no clinical signs of dehydration and urine production remained normal. The plasma creatinine concentration remained stable and the plasma sodium concentration decreased (Figure).

In view of the report of Beverley and Wheeler1 we attempted to evaluate the effect of the topical urea application on the plasma urea concentration. The use of the 10% urea cream was reduced from thrice to once daily and a concomitant drop in the plasma urea concentration from 8.4 mmol/l to 3.4 mmol/l was seen. Unfortunately, the clinical condition of the baby deteriorated at this time due to septicaemia and she died soon afterwards so that we were unable to study the progress of the plasma urea concentration after total stoppage of the treatment or after possible reintroduction.

We agree with Beverley and Wheeler1 that the effects of not only parenterally and orally administered drugs must be fully evaluated but also the effects of topically applied preparations, particularly in those patients with a defective skin barrier.

Reference


A M Oudesluys-Murphy and M van Leeuwen
Zuiderziekenhuis,
Rotterdam,
The Netherlands