Neonatal heel-prick testing leading to dystrophic calcification

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DESCRIPTION

A 15-month-old girl reviewed at a general paediatric clinic was noted to have three white lesions on the right heel. She was born prematurely at 29 weeks as the second of non-identical twins and had spent 8 weeks on the special baby care unit. Her parents reported that they had noted the lesions at 6 months of age and that their size had been progressively decreasing over the past few months. They were neither painful nor causing any other problems.

Figure 1 shows the location of the lesions on the posterolateral aspect of the heel. The lesions were circular, well-circumscribed, white keratotic papules of 1–2 mm diameter which represent calcification following repeated heel-prick testing during the post-natal period (figure 2). Biochemical investigations were normal. Subsequently, the lesions continued to decrease in size and measured less than 1 mm during the most recent examination at 18 months of age. Interestingly, the patient's twin-brother, who had undergone a similar number of heel-prick tests, did not show any such lesions.

Different pathogenic mechanisms have been suggested. First, dystrophic calcification is said to involve abnormal deposition of insoluble calcium salts in dead or degenerated cutaneous tissues. In this process, calcium salts are thought to precipitate owing to elevation of the local pH after alkaline phosphatase has been released from injured tissue.¹ An alternative mechanism may involve epidermal implantation cysts being introduced at the time of the heel-prick, which subsequently calcify.^{2 3}

Figure 1 Three discrete white keratotic papules over the posterolateral aspect of the right heel.

Figure 2 Close-up of the lesions on the heel show marked hyperkeratosis.

Learning points

- ▶ Heel-prick testing in neonates may lead to the development of white keratotic papules.
- ▶ General practitioners and paediatricians should be aware that children may present with dystrophic calcification several months after heel-prick testing was carried out.

Contributors PD managed this case, had the idea to publish it as a case report and requested pictures to be taken of the lesions. These were taken at the Department for Medical Illustration at East Sussex Hospitals NHS Trust. SS carried out the literature search, designed the case report and wrote the manuscript. The article was approved by PD. The final decision to publish the current version of the article was made jointly by SS and PD. SS is the guarantor for the article.

Competing interests None.

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