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Topical local anaesthetic cream causing persistent skin erythaema over haemodialysis graft

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A 40-year-old woman with hypertensive nephrosclerosis began haemodialysis in January 2009. In March 2010, she underwent placement of a left forearm straight Polytetrafluoroethylene (PTFE) haemodialysis graft for haemodialysis. She became increasingly intolerant of graft cannulation due to the pain of skin puncture and was prescribed a topical local anaesthetic preparation (EMLA). Within 3 weeks of its application, she developed a pruritic rash which was limited to the skin overlying the PTFE graft (Figure 1). The rash was worse on her dialysis days but was still present on other days. There was no associated fever or any difficulty in cannulating the graft. On examination, the rash was macular, well demarcated, ~4 × 20 cm and limited to the skin overlying the PTFE graft and nontender. She was afebrile and routine blood tests were within normal limits: haemoglobin 12.0 g/dL (normal 11–14.7 g/dL), white blood cell count 9.0 × 10^9/L (normal 3.5–9.5 × 10^9/L), platelet count 243 × 10^9/L (normal 140–370 × 10^9/L), alanine aminotransferase 12 IU/L (normal 15–41 IU/L) and bilirubin 8.0 μmol/L (normal 4–22 μmol/L).

Treatment with an antihistamine, chlorpheniramine (PIRITON) 4 mg, did not bring any relief. Worsening of the rash prompted fears of secondary infection and associated risks to the graft. EMLA was stopped, resulting in gradual fading and eventual complete resolution of the rash (Figure 2).

EMLA is a 1:1 oil/water emulsion of a eutectic mixture of lidocaine and prilocaine. Local side effects after application of EMLA cream are usually very mild. Moderate or severe local skin reactions can be seen in 1.7% of patients [1]. They include transient skin blanching, erythaema, urticaria, allergic contact dermatitis, irritant contact dermatitis, hyperpigmentation and purpura [1, 2].

EMLA may produce a transient biphasic vascular response involving initial vasoconstriction followed by vasodilatation at the application site. Longer application times may increase the concentration of analgesics in the vascular plexus of the upper dermis, resulting in vasodilatation [3].

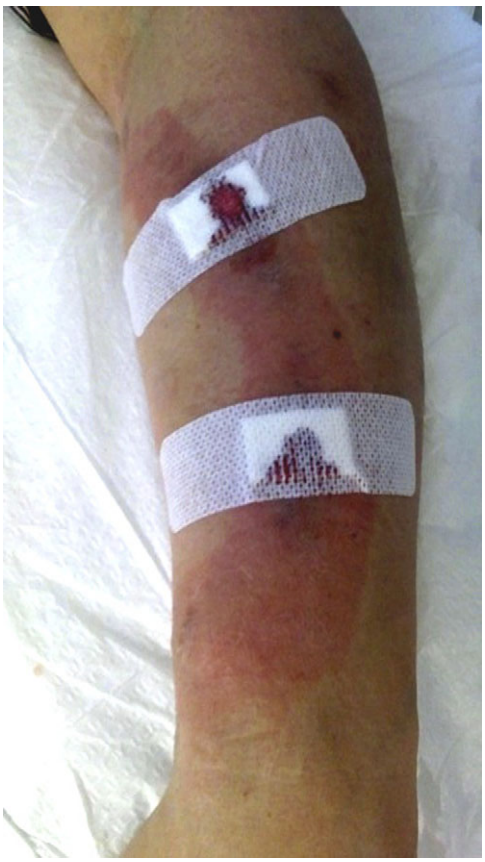

Fig. 1. Erythaema of skin limited to area above the graft.

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Conflict of interest statement. None declared.

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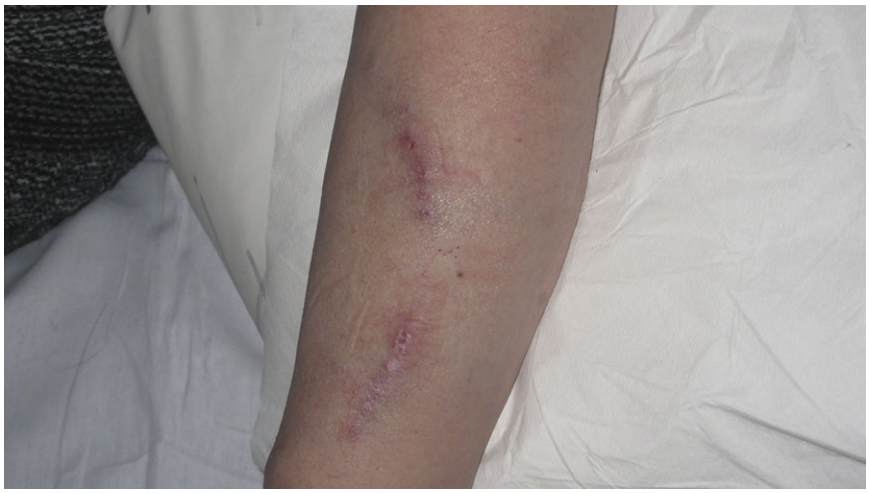

Fig. 2. Complete resolution of erythema after 8 weeks.