Constriction “Band-Aid” syndrome causing digital ischaemia

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Abstract

A case report is presented in which the use of a “Band-Aid” adhesive dressing in a child for a trivial finger wound led to the development of full thickness necrosis requiring terminalisation of a digit.

Case report

A 3-year-old girl presented to the Hutt Hospital Hand Clinic 2 weeks after a small glass laceration to the tip of her index finger. The wound had been dressed by her parents with a longitudinal and a circumferential “Band-Aid” brand adhesive dressing (Johnson & Johnson) (Figure 1).

Figure 1. “Band-Aid” brand adhesive dressing was used to cover an initially trivial finger injury
After initially complaining of pain, she refused to have the dressing removed despite multiple attempts by her parents until nearly 2 weeks, when the tip of the finger to the distal interphalangeal joint level had developed full thickness necrosis (Figure 2) without evidence of infection.

A further week of clinical observation was allowed for full demarcation of the necrotic tissue. Subsequently the finger developed some discharge and a course of oral flucloxacillin was started.

The finger was debrided by terminalising just proximal to the distal interphalangeal joint and primarily closed with local tissue. The stump went on to heal without further incident.

**Figure 2. Full thickness necrosis of the right index finger tip resulting from use of the dressing**
Figure 3. The finger was debrided and went on to heal

Discussion

A number of cases in the literature describe digital ischaemia following the application of tubular elastic dressings\(^1\)\(^-\)\(^3\) however this is the first report to our knowledge describing finger ischaemia from an adhesive “Band-Aid” type dressing. Other unusual causes of finger tourniquet include the hair-tourniquet, most commonly described in infants\(^4\).

The most significant factor in our case was the patient’s age and difficulty cooperating with timely removal of the dressing. The use of multiple layers with one of these being circumferential is also likely to be significant in elevated dressing pressures with loss of perfusion to distal tissues, as has been described with previous reports.\(^1\)
No warning about avoiding circumferential application of such plasters was evident on the packaging and non-medically trained individuals may not be aware of the potential risks with this.

In addition, adhesive dressing removal may be facilitated by the application of peanut oil\(^5\) or alcoholic hand steriliser.\(^6\) These simple steps may have avoided such a disastrous complication of an initially trivial wound.

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