

Should potassium permanganate be used in wound care?

Potassium permanganate is a mild antiseptic with astringent properties. It is used in dermatology to treat weeping skin conditions. Potassium permanganate tablets are commonly used in clinical practice. The 400mg (1:1,000) tablets are diluted in four litres of water to give a dilution of 1:10,000 (0.01%) (British Medical Association and Royal Pharmaceutical Society of Great Britain, 2003).

When should potassium permanganate be used? There is debate in the literature about whether potassium permanganate should be used (Meggison and Hollinworth, 1994). It is used as a short-term measure in the treatment of weeping eczema and extensively weeping legs, in the absence of a more effective remedy for these conditions. The treatment is usually commenced with supervision by a dermatologist. However, debate centres on whether potassium permanganate can be used to treat exuding wounds (Meggison and Hollinworth, 1994).

From my clinical experience, it is possible to suggest that potassium permanganate often only offers brief respite from the symptoms associated with exuding wounds. However, the clinical reality can sometimes be that potassium permanganate is seen as a treatment in itself and is continued long-term without further investigations to find an underlying cause of the wound and exudate levels, or without reassessment.

Evidence Quartey-Papafio (1999) describes the successful short-term use of potassium permanganate, together with a steroid cream, in the management of patients with acute cellulitis of the legs. It must be noted that the patients in the study were inpatients and were under direct medical supervision.

However, due to the dearth of evidence to support the use of potassium permanganate, it may be questioned whether the success of Quartey-Papafio's study was in fact due to the steroid treatment, rather than the potassium permanganate.

Morison et al (1997) describe the use of potassium permanganate as a treatment for acute weeping eczema. They state that the potassium permanganate solution should be pale pink in colour and that the affected area should be soaked for 10–15 minutes, after which time a steroid ointment should be applied. This again raises the question of whether steroid therapy is the effective treatment, rather than use of potassium permanganate.

Soaking time Morison et al (1997) state that antiseptics should be used selectively and sufficient time should be given for soaking in order for the antiseptic to

be effective. This is supported by Sussman and Bates-Jensen (1998) who state that a 1:10,000 dilution of potassium permanganate kills micro-organisms in one hour on an inert surface. They question its use in the treatment of weeping skin conditions.

The time required for potassium permanganate to be effective suggests that prolonged contact between the affected area and the solution, for up to one hour, is required. However, prolonged soaking of extensively weeping lower limbs and open wounds can lead to absorption of fluid into the tissue. This fluid will eventually leak out and add to the problem of leakage (Flanagan, 1997).

Correct use of potassium permanganate

Products are meant to be used in practice according to the manufacturer's instructions and the patient's prescription. It would seem obvious that when a dilution of a product is required, this should entail as precise a measurement as possible (Sterling, 2002).

In practice, there are rarely precise measurements of the dilution of potassium permanganate, and often the solution is gauged on colour.

Sometimes potassium permanganate tablets are halved for smaller amounts of solution. This must be carried out with extreme caution as the chemical is an irritant to mucus membranes and splitting the tablets will affect the accuracy of the dilution.

Potassium permanganate can also be hazardous. For example, there has been a report of a caustic burn on a child when a tablet was not properly dissolved (Baron and Moss, 2003). Lawton (2001) recommends that potassium permanganate, if used for wet and weeping eczema, should only be used for a few days at a time because it may irritate the skin.

A solution of potassium permanganate can also cause staining of the skin and clothes. This is an important consideration for patients and staff, particularly in relation to soft furnishings and ceramic bathroom facilities in a patient's home.

Conclusion Although there is debate about the use of potassium permanganate to aid the management of exuding wounds, and a general acceptance about the lack of evidence to support its use, many practitioners still say that it works.

This may be the case, and may be acceptable in the short term, but it should never negate the search for an underlying cause of the fluid leakage, and the use of potassium permanganate should not become a long-term treatment or the first option in the management of wet, exuding wounds. ■

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Potassium permanganate is sometimes used in dermatology to treat weeping skin conditions. For this reason it is also sometimes used to treat highly exuding wounds. Irene Anderson argues that in clinical practice it appears that this substance can be treated in an almost casual manner, which belies its staining and potentially caustic effects

KEY WORDS

Potassium permanganate
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