



USE OF TOPICAL OPIOIDS

The use of topical opioids is based on a small number of case studies, some dating back centuries, others more recent. Current information comes from case reports of patients with a number of painful conditions where morphine and diamorphine have been used successfully. This is surprising, as it is known that diamorphine has no intrinsic analgesic activity, however, it has been shown to break down to morphine in solution in vitro (Barret et al 1992). Topical opioids appear to be effective when used on mucous membranes, inflamed areas and pressure sores. This would correlate with the discovery of opioid receptors in inflamed tissue (Lawrence et al., 1992).

The following formulations have been described;

Morphine 0.08% gel (Krajnik et al., 1999)
Morphine 0.1% in Intrasite
Morphine 0.015% in Intrasite (Twillman et al., 1999)
Morphine 0.3% gel (Krajnik et al., 1999)

Diamorphine 10mg in Inrasite gel (Back and Finlay, 1995)

At St. Christopher's, we use diamorphine, as it is the most readily available opioid and have made it up on the wards as it is needed. The concentration we have used has been 0.1%, but a patient had good analgesia from a 0.01% mixture when applied to a painful pressure sore.

To make a 0.1% mixture requires;

Diamorphine 10mg
Intrasite 10g

These quantities are based on the fact that a 1% solution requires 1g to be added to 100ml i.e. 1000mg in 100ml or 100mg in 10ml

thus a 0.1% solution requires 100mg to be added to 100ml or 10mg in 10ml

It is not known yet whether it is the total amount of the drug or the concentration that is most important. When a wound decreases in size should the volume of the diluent be decreased whilst the dose of diamorphine remain the same, or should the drug be decreased in proportion to keep the concentration constant?

Diamorphine has also been successfully added to metronidazole gel 0.75% to provide a concentration of 0.025 – 0.1% diamorphine.

Margaret Gibbs Hospice Pharmacist 14.4.00
Updates June 2000, July 2003, May 2005

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