



Focus on...mupirocin

Stephani Schmidt, MSc Pharm
Amayeza Information Services

Introduction

Most superficial bacterial skin infections can be managed with good skin care and the use of antiseptic agents. However, the use of topical antibiotics may be of value in the treatment of minor cases of infected eczema and impetigo.

What is mupirocin?

Mupirocin is a topical antibiotic that is able to kill *Staphylococcus aureus* and other susceptible bacteria that cause skin infections. *S. aureus* is present in the nose (usually temporarily) of about 30% of healthy adults and on the skin of about 20%.

What is mupirocin used for?

Studies have found that topical mupirocin is as effective as oral antibiotics in the treatment of impetigo and other superficial skin infections.

Mupirocin is indicated for topical treatment of primary bacterial skin infections such as:

- Impetigo (a contagious skin infection presenting with blistering and crusting)
- Folliculitis (swelling of the skin around the hair follicles)
- Furunculosis (occurrence of several boils at the same time)
- Ecthyma (infection involving the full thickness of the outer layer of the skin)

Mupirocin can also be used for the treatment of secondary skin infections such as infected:

- Dermatoses e.g. infected eczema or

- Traumatic lesions that are infected e.g. abrasions, insect bites, minor wounds (which do not need hospitalisation) and burns.

In addition, mupirocin may be used prophylactically to prevent:

- Infection of abrasions, small cuts and wounds or
- Bacterial contamination of other clean lesions, small wounds or incisions.

Mupirocin nasal ointment is used to kill the *Staphylococcus* strains (including methicillin-resistant *S. aureus*) in the nasal passages.

How should mupirocin be used?

The ointment or cream should not be mixed with other topical preparations. Dilution may potentially result in the loss of stability and/or a reduction in the antibacterial activity.

How often should mupirocin be applied?

- Mupirocin topical creams and ointments
 - The affected area should be covered with a small amount of cream or ointment two to three times per day. A suitable dressing may be used to cover the treated area.
- Mupirocin nasal ointment
 - A small amount (approximately the size of a match head) should be applied twice a day to the inside of each nostril. Once the ointment has been applied, the nostrils should be closed by pressing the sides of the nose together several times.

For how long should mupirocin be used?

The duration of treatment usually varies between five to ten days. Mupirocin (topical and nasal) ointment may be used for up to ten days, depending on the response. Bacterial skin infections are usually cleared within ten days of starting treatment.

Mupirocin should not be used for prolonged periods and should also not be used irregularly as this may result in overgrowth of non-susceptible strains of *S. aureus* and other organisms, including fungi.

What are the safety concerns with mupirocin-containing products?

Who should not use mupirocin?

Mupirocin products should not be used by persons who have an allergy or history of hypersensitivity to any of the ingredients included in the product.

Mupirocin ointment contains polyethylene glycol. Polyethylene glycol can be absorbed from damaged skin, open wounds or burns. The ointment should therefore not be used in conditions where absorption of large quantities of polyethylene glycol is possible, especially in people with kidney problems.

Women who are pregnant or breastfeeding should consult their doctor before using mupirocin.

Warnings and special precautions

Contact with the eyes should be avoided. However, should the product accidentally get into the eye(s), the eyes should be thoroughly irrigated/washed with water.

Topical creams and ointment are not suitable for intranasal use; only the nasal ointment is suitable for intranasal use.

Side-effects

When applied to the skin, mupirocin is usually well-tolerated. Common side-effects associated with the topical use of mupirocin include burning which is limited to the area of application. Should this occur, treatment should be stopped and the product should be rinsed off.

Please refer to the individual package inserts for a detailed list of contraindications, precautions and side-effects.

Conclusion

With topical treatment, a higher concentration of the antibiotic can be delivered at the site of infection. Topical treatment also has a lower potential for side-effects compared to oral antibiotic treatment.

Impetigo or superficial bacterial skin infections involving small areas can be effectively treated with topical mupirocin. However, oral antibiotics may be a more suitable option for the treatment of serious skin infections or if large areas are involved.

It is also important to remember that topical antibiotics such as mupirocin are not effective against viral and fungal infections and should not be used to treat infections caused by viruses or fungi.

Bibliography

1. Rossiter D, editor. South African Medicines Formulary. 12th Cape Town. Ed: Health and Medical Publishing Group;2016:197-198;538.
2. Bactroban ointment (mupirocin). Package Leaflet. March 2016. Glaxo Wellcome Operations. UK.
3. Bactroban topical ointment (mupirocin). Package Insert. March 2016. GlaxoSmithKline South Africa (Pty) Ltd.
4. Mupirocin. AHFS Drug Information. [Online] Medicine Complete© The Royal Pharmaceutical Society 2019.
5. Bactroban cream (mupirocin). Package Insert. March 2016. GlaxoSmithKline South Africa (Pty) Ltd.
6. Bactroban nasal ointment (mupirocin). Package Insert. March 2016. GlaxoSmithKline South Africa (Pty) Ltd.
7. Mupirocin. MedlinePlus [Homepage on the Internet]. [Cited 28 Jan 2019]. Available from: <https://medlineplus.gov/druginfo/meds/a688004.html>
8. Mupirocin. In: Micromedex [database on the Internet]. Greenwood Village (CO): Truven Health Analytics; publication year [cited date]. Available from: www.micromedexsolutions.com (Subscription required to view)