Risk of toxicity from nasal application of mupirocin?

Dear Editor,

Re: "Managing skin infections in Māori and Pacific families" (BPJ 45, Aug 2012) – use of intranasal bactroban. Do we need to be concerned about the propylene glycol content, as we have been warned about in the past, when applied up the nose?

Sarah Bull
Pharmacist

Fusidic acid is the first-line choice for treating recurrent skin infections and community outbreaks (e.g. impetigo), where nasal carriage is suspected. Mupirocin is also effective, but it is active against MRSA so use should be reserved for when susceptibility testing shows MRSA to be present.

The topical mupirocin formulation (Bactroban ointment) available in New Zealand does contain a polyethylene glycol base and can cause irritation to the mucous membranes when applied intranasally. However, the amount of polyethylene glycol absorbed from nasal application is very unlikely to cause systemic toxicity to the patient. Caution is only required in people with moderate to severe renal impairment, if Bactroban ointment is being applied to a large area of broken skin, where systemic absorption of polyethylene glycol may worsen renal impairment (due to renal excretion).

Given that there is no alternative form available, and that mupirocin is the recommended treatment for infection or eradication of carriage of MRSA, the benefits of using it are likely to outweigh the risks.

PCR testing for pertussis: what swab to use?

Dear Editor,

The recommendation to use a "dry orange top tube" for PCR testing for pertussis [in "Pertussis: an avoidable epidemic" BPJ 45 (Aug, 2012)], has caused a bit of confusion.

Laboratories seem to have differing sample requirements and instructions. For example, LabPlus instructions are for swabs in transport media and Canterbury Health Laboratories request a dry swab only, but have no reference to an orange top.

Medical Laboratory Scientist, *North Island*

The "orange topped tubes" referred to in the Pertussis article are the flock-topped nasal swabs with a flexible head. This is the recommended swab to use, as the flock top picks up (and releases) more material than the conventional cotton or Dacron swab, and the flexible head allows for the best chance of correct nasopharyngeal swabbing technique.

A swab which uses a charcoal medium for transport of the specimen is not recommended because a PCR analysis cannot be conducted on a sample that has been placed in charcoal medium, and the swab will therefore be rejected by the laboratory.

The charcoal swab is used for pertussis culture, which is less useful than PCR as it has a lower sensitivity and a narrow time frame in which a sample will return a positive result. Pertussis culture is no longer recommended, although it is still available from some laboratories.

It appears that there are inconsistencies in the type of swab recommended by New Zealand laboratories. Most laboratories will accept a swab in a dry tube or a tube with universal viral transport medium, regardless of the swab or tube colour. Wire swabs are also acceptable, as long as the thinner, flexible head wire swab is used. The thicker wire swabs used for nose or throat swabs are not recommended as they are not flexible enough to be used to take a correct nasopharyngeal sample.

In summary, the three most common swabs that can be used for pertussis PCR testing are:

- The orange top, flock-topped, flexible head swab, with dry tube
- The blue top, wire swab placed back in the dry tube (not in the charcoal medium tube)
- A flock-topped, flexible head swab that is broken off into a short tube with universal viral transport medium

Other types of swab may be available and it is recommended that practitioners check with their local laboratory as to what the preferred sample method and materials are.

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