Treating asymptomatic MRSA on discharge reduces risk of infection

MRSA bacteria are easily transferable in healthcare settings and people may become colonised in hospital or the community. The bacteria can be carried without causing symptoms: this is called MRSA colonisation; usually, with time, normal skin bacteria will eradicate the strain. However, being an MRSA carrier does increase the risk of developing potentially serious infection and passing the bacteria on to others.

Decolonisation, which uses medicated creams and body-wash solutions, has been shown to be effective at reducing infection rates while patients are in hospital. Huang et al (2019) carried out a large randomised controlled trial in the US to assess whether decolonisation is an effective treatment in patients discharged from hospital. The use of a decolonisation intervention for six months after discharge led to a 30% reduction of MRSA across all the participants in the decolonisation group. People who adhered fully to the decolonisation intervention had 44% fewer MRSA infections.

The authors studied 2,121 adults who had tested positive for MRSA in hospital or the community. The bacteria were easily transmissible and people may become colonised without symptoms: this is called MRSA colonisation. The bacteria can be eradicated when normal skin bacteria will overwrite the MRSA bacteria. However, being an MRSA carrier does increase the risk of developing potentially serious infection and passing the bacteria on to others.

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The authors studied 2,121 adults who had tested positive for MRSA in hospital but had no symptoms, and compared two interventions:

- Hygiene education alone (education group);
- Hygiene education plus decolonisation using medicated creams, mouthwash and body wash (decolonisation group).

All participants were followed up for 12 months after discharge.

Hygiene education consisted of giving patients information on MRSA as well as advice about personal hygiene and household cleaning. The decolonisation group received the same information plus an intervention involving chlorhexidine mouthwash twice a day, mupirocin nasal cream twice a day and daily bathing or showering with chlorhexidine. That regimen was carried out for five days twice a month for six months.

The study relied on patients self-reporting their adherence to the intervention. Patients were aware of their treatment group, but the clinicians assessing outcomes did not know this.

Although relatively few carriers of MRSA end up with an infection, those who do often end up back in hospital. This study suggests that, to reduce the risk of later MRSA infection, patients who test positive for MRSA in hospital should be treated after discharge, even if they have no symptoms.

Rates of MRSA infection are higher in the US than in the UK (strains prevalent in the US are more likely to cause disease in healthy hosts) and therapy regimens may differ. In addition, participants were offered payment for their involvement, which may have influenced their adherence. However, the study found that the intervention was effective and this is relevant to practice in the UK.

Decolonisation is most effective when patients follow treatment exactly, but the intensive daily regimen used in the study, along with the length of the treatment, may compromise adherence.

**Implications for nursing**

The code of practice on the prevention and control of infections (Department of Health, 2015) recommends suppression regimens for MRSA-colonised patients when appropriate, as well as measures to transfer infected or colonised patients; however, it does not make specific recommendations about what measures to take upon discharge. Current UK practice is to attempt decolonisation and consider repeating it if unsuccessful, but not to have a prescribed regimen of periodic therapy. The study suggests that considering such serial courses may be worthwhile, even in patients unlikely to eradicate the organism (for example, those with chronic wounds or indwelling devices).

**Box 1. What did the review find?**

- **The risk of MRSA infection across all the participants in the decolonisation group was 30% lower than in the education group.**
- **The lower risk of MRSA infection in the decolonisation group led to a 29% lower risk of hospitalisation due to MRSA.**
- **Better adherence to the decolonisation regimen was associated with lower rates of infection.**
- **42% of participants in the decolonisation group reported side-effects (mostly mild local irritations caused by the products), but 39% chose to continue treatment.**

**References**

- To read the full Signal report go to: Bit.ly/NIHR_MRSA

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