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Intranasal mupirocin for reduction of Staphylococcus aureus infections in surgical patients with nasal carriage: a systematic review.

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OBJECTIVES: The majority of nosocomial Staphylococcus aureus infections originate from the patients' own flora, with nasal carriage of S. aureus before surgical procedures being a risk factor for subsequent infection. The objective of this review was to assess whether intranasal mupirocin treatment of nasal S. aureus carriers before surgery results in a reduction of the post-operative S. aureus infection rate. METHODS: CENTRAL, EMBASE and MEDLINE were searched for the keywords mupirocin, pseudomonic acid or bactroban, combined with nasal or intranasal. Only randomized controlled studies investigating surgical patients were included. Titles and abstracts were screened independently by two reviewers. S. aureus infection data in nasal carriers with and without mupirocin treatment were pooled in the meta-analysis. RESULTS: The literature search resulted in 211 hits, of which 4 articles met the inclusion criteria. Among the 686 mupirocin-treated surgical patients with S. aureus nasal carriage, there were 25 S. aureus infections (3.6%), compared with 46 (6.7%) in the controls (RR 0.55, 95% CI 0.34-0.89; P = 0.02). CONCLUSIONS: Prophylactic intranasal mupirocin significantly reduced the rate of post-operative S. aureus infections among surgical patients who were S. aureus carriers.