

META-ANALYSIS OF CHLORHEXIDINE AND POVIDONE-IODINE SOLUTION FOR CATHETER-SITE CARE

A meta-analysis of 8 published studies evaluated the efficacy of skin disinfection with chlorhexidine gluconate compared with povidone-iodine solution in preventing catheter-related bloodstream infection. Included randomized trials compared chlorhexidine gluconate solution with a povidone-iodine solution for vascular catheter-site care and reported the incidence of catheter colonization or catheter-related bloodstream infection with sufficient data to calculate the risk ratio. Risk for catheter colonization and catheter-related bloodstream infection was significantly lower in the chlorhexidine gluconate group than in the povidone-iodine group. The summary risk ratio for catheter colonization for all vascular catheters in the chlorhexidine gluconate group compared with the povidone-iodine group was 0.49 (95% CI, 0.31 to 0.71). The summary risk ratio for catheter-related bloodstream infection for all vascular catheters was 0.49 (95% CI, 0.28 to 0.88), indicating a significantly reduced risk in patients using chlorhexidine gluconate. Researchers concluded that the use of chlorhexidine gluconate rather than povidone-iodine can reduce the risk for catheter-related bloodstream infection by approximately 50% in hospitalized patients requiring short-term catheterization.

Chaiyakunapruk N, Veenstra DL, Lipsky BA, Saint S. Chlorhexidine compared with povidone-iodine solution for vascular catheter-site care: a meta-analysis. *Ann Intern Med* 2002;136:792-801.

FUMAGILLIN TREATMENT OF INTESTINAL MICROSPORIDIOSIS

A randomized, double-blind, placebo-controlled trial assessed the efficacy of fumagillin in the treatment of intestinal microsporidiosis in immunocompromised patients. Participants (N = 12; age \geq 18 years) were immunocompromised because of either HIV-1 infection or organ transplantation and had chronic intestinal microsporidiosis. Patients infected with *Enterocytozoon bieneusi* were randomized to receive either fumagillin (20 mg 3 times daily on an empty stomach) or placebo orally for 2 weeks. Efficacy was assessed primarily by the clearance of microsporidia, as evidenced by analysis of stool specimens. Patients with microsporidial spores remaining in their stools received open-label fumagillin (20 mg 3 times daily) for an additional 2 weeks. Patients whose stools no longer contained spores were followed by monthly stool examinations. Clearance of microsporidia occurred in all of the 6 patients in the fumagillin group, compared with none of the patients in the placebo group. Treatment with fumagillin was associated with increases in absorption of D-xylose ($P = 0.003$) and in Karnofsky perform-

ance scores ($P < 0.001$) and with decreases in loperamide use ($P = 0.01$) and total stool weight ($P = 0.04$). The 6 subjects who had received placebo subsequently had clearance of microsporidia after open-label treatment with fumagillin. Relapse of infection was recorded in 2 HIV-infected patients during follow-up. The trial showed that fumagillin is an effective treatment for *E. bieneusi* microsporidiosis in immunocompromised patients.

Molina JM, Tourneur M, Sarfati C, et al. Fumagillin treatment of intestinal microsporidiosis. *N Engl J Med* 2002;346:1963-9.

INTRANASAL MUPIROCIIN FOR POSTOPERATIVE STAPHYLOCOCCUS AUREUS INFECTIONS

A randomized, double-blind, placebo-controlled trial considered whether intranasal treatment with mupirocin reduces the rate of *Staphylococcus aureus* infections at surgical sites and prevents other nosocomial infections. The study evaluated adults who underwent cardiothoracic, general, oncologic, gynecologic, or neurologic surgical procedures. Of 5257 potential participants, 4030 were enrolled and were randomly assigned to receive either 2% mupirocin calcium ointment or an identical-appearing placebo ointment. Of these patients, 3864 were included in the intention-to-treat analysis. Mupirocin or placebo ointment was applied to the interior of each anterior naris twice daily for up to 5 days before surgery. Patients were monitored for a mean of 30 days after surgery to determine whether they acquired *S. aureus* infection. Preoperative use of intranasal mupirocin had no significant effect on the rate of surgical-site infection with *S. aureus*. However, nasal carriage of *S. aureus* was eliminated in 83.4% of patients who received mupirocin, compared with 27.4% of patients who received placebo ($P < 0.001$). Among the patients with nasal carriage of *S. aureus*, 4.0% of those who received mupirocin had nosocomial *S. aureus* infections, compared with 7.7% of those who received placebo. The trial showed that prophylactic intranasal application of mupirocin did not significantly reduce the rate of *S. aureus* surgical-site infections overall but did significantly decrease the rate of all nosocomial *S. aureus* infections among patients with nasal carriage of *S. aureus*.

Perl TM, Cullen JJ, Wenzel RP, et al. Intranasal mupirocin to prevent postoperative *Staphylococcus aureus* infections. *N Engl J Med* 2002;346:1871-7.