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P2743 Nasal mupirocin prevents catheter-related *Staphylococcus aureus* infections in patients on home parenteral nutrition

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Background: catheter related *S. aureus* infections (CRSAIs) are an important cause of hospitalization and catheter loss in patients on home parenteral nutrition (HPN). In other clinical settings, *S. aureus* carriage eradication has been proven effective in the prevention of *S. aureus* infections, with the use of intranasal mupirocin ointment being the most studied and least burdensome. This study for the first time investigates the effectiveness of mupirocin on *S. aureus* eradication and the prevention of CRSAIs in HPN patients.

Materials/methods: in this retrospective, pre-/post-intervention observational study, we collected data from clinical records and the local database of our tertiary care referral centre for HPN support. Between 2013-2017 patients were screened to assess their *S. aureus* carrier status. In case of carriage intranasal mupirocin was applied during 5 consecutive days every month. The outcomes of interest were the percentage of successful *S. aureus* eradication, differences in infection rates and development of mupirocin resistance. The data were compared with the historical infection data of the same patients. Infection rates were compared by adjustment for within-patient correlation using conditional Poisson regression.

Results: nasal *S. aureus* eradication was successful in 67% (70/105) of treated patients. The CRSAI rate in these patients decreased significantly from 0.67 to 0.31 per 1000 catheter days, resulting in an adjusted incidence rate ratio (IRR) of 0.40 (95% CI: 0.21-0.75 p=0.004). Risk of catheter related bloodstream infections declined with almost 50% (IRR: 0.52 95% CI: 0.29-0.93 p=0.027). Diminished mupirocin susceptibility occurred in 4 patients, in 3 of them the eradication treatment had failed (p=0.045).

Conclusions: mupirocin nasal ointment seems an effective measure for *S. aureus* eradication and results in a clinical significant reduction of CRSAIs in HPN patients with *S. aureus* carriage.