

Prevalence of nasal carriage of staphylococcus aureus in osteomyelitis of the diabetic foot

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Introduction - Aim: Nasal carriage of *Staphylococcus aureus* consists a predisposing factor for infection in patients with diabetes. Aim of this study was to estimate the prevalence of nasal carriage in patients with diabetic foot osteomyelitis (OM). **Patients and Methods:** Retrospective study of all diabetic patients that visited Demetrios Voyatzoglou Diabetic Foot Clinic and/or were hospitalized in 2nd Dept. of Internal Medicine during the 34-month period 15/11/2009 - 15/9/2012 with diabetic foot OM, diagnosed with X-ray and/or MRI. **Results:** 36 patients, age 39-85 yrs. (26 men) presented with OM. Swab cultures from deep tissues after wound debridement were obtained in 34/36 Px. Cultures were mainly (25/34) polymicrobial, with up to 7 microorganisms per culture. Aerobic Gram (+) cocci predominated (27/34 cultures vs. 20/34 with aerobic Gram (-) rods, percentages 79% vs. 58,7% respectively), while anaerobes grew in only 1 specimen. *S. aureus* was the most frequently isolated Gram (+) coccus, but also the most frequently isolated microorganism in general (isolated in 18/34 cultures, i.e. 52,7% of all OM Px). 9/18 isolates (50%) were methicillin-resistant (MRSA). In 11/18 Px with *S.aureus* a nasal swab was obtained, and 5/11 specimens (45%) were positive for *S. aureus* nasal carriage. In another study of our group, *S. aureus* nasal carriage in diabetic Px in general was found significantly lower (26,7%), although more than 2fold compared to nondiabetic controls. **Conclusions:** 1) Aerobic Gram (+) cocci were the predominant microorganisms in Px with diabetic foot OM, with *S. aureus* being the most frequently isolated among them. 2) 50% of *S. aureus* isolates were methicillin-resistant, whereas overall MRSA prevalence among OM Px was 26,1%. 3) *S.aureus* nasal carriage was found in approximately 1 out of 2 Px with *S. aureus* OM, while in another study nasal carriage was found in 1 out of 4 diabetic Px in general. 4) Although larger studies are needed, it seems meaningful to check diabetic Px (and especially those with diabetic foot ulcers) for *S.aureus* nasal carriage and to treat carriers.