

POSTER PRESENTATION

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Enterococci in orthopedic infections: who is at risk?

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Introduction

Orthopedic and trauma surgery is most frequently a clean surgery, unless injury-related or in the presence of spontaneous soft tissue infection. International guidelines recommend 1st and 2nd generation cephalosporins for perioperative prophylaxis; the later do not cover enterococci.

Objectives

To investigate whether some patient populations/types of surgery would be particularly at risk for enterococcal infections and might benefit from an adapted prophylaxis.

Methods

Single-center, retrospective cohort study of adult patients operated for orthopedic infections 2004-2014. Only intraoperative microbiological samples and first clinical infectious episodes were considered for analysis. We excluded recurrent infections and pediatric cases.

Results

Among 2740 surgical interventions, enterococci were identified in 100 (3.6%) intraoperative samples. Only 33/100 (33%) infections were monomicrobial. Overall, 665 surgeries (24%) involved osteosynthesis material. Enterococcal infections were particularly related to the foot (29/429 vs. 71/2311; $p < 0.01$), associated with abscesses (25/1070 vs. 75/1670; $p < 0.01$), polymicrobial infections (67/572 vs. 33/1853; $p < 0.01$) and underlying osteosynthesis material (35/665 vs. 55/2075; $p < 0.01$). All hardware (total joint arthroplasties, plates, nails) were equally infected without predilection for a particular material. The proportion of enterococci among all pathogens in diabetic foot infections was 7%. Enterococci significantly more often responsible for diabetic foot infections (48/659 vs. 52/2081; $p < 0.01$) and infections among elderly people (median age 65 years vs. 56 years, $p < 0.01$). In contrast, enterococci were almost

never identified in septic bursitis and native bone or joint infections. By multivariate analysis adjusting for case-mix and age, the presence of diabetic foot (odds ratio 1.9, 95% CI 1.2-2.9) and polymicrobial infection (OR 6, 95%CI 3.9-9.4) were the only variables significantly associated with enterococcal infection; while sex, age, type of material, and the exposure to antibiotic therapy prior to intraoperative sampling were not.

Conclusion

Enterococci in orthopedic surgery are rare and mostly encountered as co-pathogens in polymicrobial infections of the ulcerating diabetic foot. There is no indication to change our antibiotic prophylaxis policy.

Disclosure of interest

None declared.

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