



Symposium: 2014 Musculoskeletal Infection Society

Editorial Comment: Symposium: 2014 Musculoskeletal Infection Society

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The annual meeting of the Musculoskeletal Infection Society serves as a forum for presentation of novel research work, education, and promotion of fruitful discussion and collaboration among participants. The manuscripts included in this symposium, which were presented at the 2014 meeting, underwent formal, rigorous peer review and present interesting and important findings spanning the topics of diagnosis, treatment, and prevention of musculoskeletal infections.

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Periprosthetic joint infection (PJI) is often challenging to diagnose with the currently available methods. The use of synovial fluid biomarkers, such as alpha-defensin, is an exciting new development that has shown promise in the diagnosis of PJI and provides consistent results regardless of the microorganisms present. This is important since microorganisms of low virulence may not produce an inflammatory response. On the other hand, a periprosthetic fracture may create such a response, thereby confounding the diagnostic attempt to determine if a PJI is also present. Administration of antibiotics is another confounding variable that reduces the laboratory values indicative of PJI and hinders diagnosis of this complication. These and other limitations of current diagnostic methods should always be kept in mind by the treating physicians [2]. Further research on developing new methods and improving the use of current ones is needed to refine the diagnostic process, but we are proud to

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present some important findings on these key issues in these proceedings.

Treatment of musculoskeletal infections often includes the local administration of antimicrobials using various delivery vehicles, such as bone



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cement spacers that may be prefabricated or surgeon-made. Understanding the elution characteristics of antimicrobials from these delivery vehicles will help optimize use of this treatment modality. The potential for tissue toxicity from high local concentrations of amphotericin B is a concern but research presented in these proceedings found that liposomal amphotericin B in bone cement is well tolerated by mouse tissue *in vivo* [3].

The importance of preventing musculoskeletal infections and reducing associated patient morbidity and health care costs cannot be overemphasized. Development of infection is a multifactorial process that involves interactions between the contaminating microorganisms, the local environment and the host defenses. As a result, preventive efforts may target several distinct areas and may include coating implants with antibiotics, *Staphylococcus aureus* nasal decolonization protocols, optimization of antibiotic prophylaxis, and awareness of the potential for contamination of the

surgeon's gown-glove interface. However, it is important to assess the efficacy, safety, and cost of these interventions in order to implement prevention protocols that will reduce infection rates in a safe and cost-effective way. More is not necessarily better, as was shown with the addition of vancomycin to cephazolin prophylaxis in primary joint arthroplasty [1]. We should also be aware that a patient with a history of a PJI has increased risk of subsequent PJI at a different site.

Musculoskeletal infections are a challenging problem of increasing importance and continuous research effort and progress is required to optimize their prevention, diagnosis, treatment. The annual Musculoskeletal Infection Society meeting aims to facilitate this progress by promoting scientific dialogue and multidisciplinary collaboration among basic science researchers, infectious disease specialists, orthopaedic surgeons, and all health care professionals. Our meetings are open to all, and we hope that readers who feel passionately

about the issues covered in these proceedings—as we do—will join us at our 25th meeting, which will take place from July 31 to August 1, 2015 at Cleveland, OH, USA.

References

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