2011 Musculoskeletal Infection Society: Editorial Comment

Elie F. Berbari MD, Montri D. Wongworawat MD

Published online: 18 August 2012

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In this volume of CORR® we publish 13 papers presented at the 21st Annual Meeting of the Musculoskeletal Infection Society (MSIS) held in Rochester, MN in August 2011. This special issue focuses on novel biofilm pathophysiology and cutting edge research related to the prevention, diagnosis, and management of prosthetic joint infections.

A better understanding of biofilm prevention and formation may lead to more effective management strategies in patients with musculoskeletal infections. The Jeannette Wilkins Award was granted to a paper describing a novel MRI technique that determined local drug distribution by using gadolinium-diethylenetriaminepentaacetate as an imaging surrogate for antimicrobials with similar diffusion characteristics in a rabbit model. One paper focused on the role of cis-2-decanoic acid (C2DA) in inhibiting the formation of *Staphylococcus aureus* biofilm using turbidity assay; combining C2DA with antibiotics increased the inhibitory effects, while no cytotoxic effects on fibroblasts were observed. Two papers focused on the basic science of local antibiotic delivery methods: the use of liposomal amphotericin in cement showed improved release at the expense of compressive strength; likewise, dough-phase mixing of high-dose antibiotics in cement led to improved

Fig. 1 Dr. Elie F. Berbari is shown.

antimicrobial delivery with associated compressive strength loss.

The prevalence of methicillin-resistant *S aureus* colonization in elective spine surgery is reviewed in one paper, finding that the prevalence of 2.8% is similar to that of the arthroplasty population. Three papers focused on risk factors and the prevention of prosthetic joint infection: the assessment of operating room traffic showed per-minute door opening rates of 0.65 for primary and 0.84 for revision cases; a large series of 15,222 patients found that preoperative anemia is associated with the development of prosthetic joint infection; and even with the rise of resistant

E. F. Berbari
Section of Orthopedic Infectious Diseases, Mayo Clinic College
of Medicine, 200 first St SW, Rochester, MN 55905, USA

M. D. Wongworawat (✉)
Department of Orthopaedic Surgery, Loma Linda
University Medical Center, 11406 Loma Linda Drive,
Suite 218, Loma Linda, CA 92354, USA
e-mail: dwongworawat@llu.edu

Fig. 2 Dr. Montri D. Wongworawat is shown.

organisms, the addition of vancomycin to the routine cefazolin regimen did not reduce surgical site infection,

compared with single-agent dosing. Management strategies and the outcomes of patients with prosthetic joint infections were described in four papers. One retrospective series evaluated the treatment of enterococcal periprosthetic joint infection and confirmed that multiple operations may be required for infection control. Another retrospective comparative study showed that an aggressive treatment protocol for culture-negative prosthetic joint infections can achieve similar rates of infection-free survival with culture-positive patients. In a retrospective series of 33 periprosthetic total hip infections treated with prefabricated, partial load-bearing, gentamicin-impregnated hemiarthroplasty spacer, infection-free status at the last followup after reimplantation was achieved in 93% of cases. A review of 239 two-stage total knee revision for infection demonstrated 85% infection-free survivorship at 5 years and 78% at 10 years. Finally, a comparative study of prosthetic knee infection patients showed that the patients who received knee fusions had better functional outcomes when compared with those who received above-knee amputations.

We hope that you find this symposium useful to your practice. Management of complex musculoskeletal infections requires the collaboration of an interdisciplinary team of microbiologists, infectious diseases specialists, and orthopedic and plastic surgeons. We invite you to join us for the 2013 MSIS meeting which will be held in Philadelphia, Pennsylvania.