EDITORIAL

Coagulase-negative staphylococci and endocarditis: reappraisal in the 21st century

Vivian H. Chu

Duke University Medical Center. Durham, North Carolina, USA.

Coagulase-negative staphylococci (CoNS) are a leading cause of nosocomial bloodstream infection. Most of these infections are related to intravascular devices and are usually cured with prompt removal of the offending device. Except for prosthetic valve endocarditis (PVE) in which valvular prosthesis-related complications are common, most cases of CoNS catheter-related infections are uncompli-cated, and in sharp contrast to S. aureus bloodstream infections, are uncommonly associated with septic shock or metastasis to distant sites. Because of the benign clinical presentation of most CoNS bloodstream infections and the inability to cure them without prosthesis removal, these infections are often considered a nuisance rather than a serious, life-threatening condition.

The study published in this issue of Enfermedades Infecciosas y Microbiología Clínica, "Left-sided native valve endocarditis caused by Coagulase-negative staphylococci: an emerging disease," demonstrates the paradigm of how clinicians should think of CoNS bloodstream infections. While CoNS NVE was once considered a rare disease, as suggested by recent studies, nosocomial acquisition and an increasing prevalence make this disease worthy of serious consideration in the clinical setting. Early studies of CoNS NVE indicated that CoNS caused 1% to 5% of cases of NVE. Since then, more recent studies suggest that the prevalence has increased. The current investigation by Haro et al. showed that 8.3% of all cases of left-sided native valve endocarditis were caused by CoNS. Thus is in agreement with a recent prospective multi-center international cohort study of endocarditis which similarly demonstrated a prevalence of 8%. The temporal nature of this increasing prevalence was demonstrated in this recent Spanish study. While CoNS NVE was once considered a rare disease, as suggested by the authors, these patients were likely diagnosed in the hospital setting or under close observation in outpatient clinical settings. Possible explanations for the higher mortality are a sicker patient population or perhaps a more virulent staphylococcal pathogenicity factor.

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The epidemiology of NVE has changed dramatically over the past few decades. Once predominated by viridans streptococci in the community setting, this disease is increasingly becoming a nosocomial infection due to S. aureus, with CoNS increasing in prevalence. While simple catheter-related CoNS bloodstream infections are common and usually benign, CoNS NVE can be associated with surprisingly poor outcomes. Future efforts should focus on the pathogenesis and prevention of serious CoNS infections.

References

1. Pfister MA, Jones RN, Dunn GV, Ragland K. Bacterial pathogens isolated from patients with bloodstream infection: frequencies of occurrence and antimicrobial susceptibility patterns from the SENTRY antimicrobial surveil-

Correspondence: Dr. Vivian H. Chu, MD MHS.
Duke University Medical Center.
Box 2352. Durham, North Carolina 27710 USA.
E-mail: chu00009@mc.duke.edu

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