

Trends in Infective Endocarditis: A View from a Community Hospital

Thomas L Treadwell*

Department of Infectious Disease, Boston University School of Medicine, Boston, USA

*Corresponding author: Thomas L Treadwell, Department of Infectious Disease, Boston University School of Medicine, Boston, USA, E-mail: thomas.treadwell@mwmc.com

Received: 21-May-2024, Manuscript No. JIDT-24-136449; **Editor assigned:** 23-May-2024, Pre QC No. JIDT-24-136449 (PQ); **Reviewed:** 06-Jun-2024, QC No. JIDT-24-136449; **Revised:** 13-Jun-2024, Manuscript No. JIDT-24-136449 (R); **Published:** 20-Jun-2024, DOI: 10.4172/2332-0877.1000593

Citation: Treadwell TL (2024) Trends in Infective Endocarditis: A View from a Community Hospital. J Infect Dis Ther 12:593.

Copyright: © 2024 Treadwell TL. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Description

Infective Endocarditis (IE), an uncommon, life-threatening bacterial infection that was uniformly fatal in the pre-antibiotic era, causes significant morbidity and mortality even with appropriate antibiotic and surgical management. In recent years, there have been significant changes in the incidence, microbiology, and outcomes of IE fuelled by an aging population, an epidemic of Injection Drug Use (IDU), and increasing use of implanted cardiac devices [1]. Few studies of IE have been done in community hospitals that do not have cardiac surgery. A recent study done at a suburban Massachusetts teaching hospital brings into focus many of the trends in IE [2].

The study was a retrospective analysis of 99 patients with IE. The age distribution was bimodal. Nearly 60% of the patients were in the 8th decade or older, while a smaller group of patients, nearly all IDU, were aged 20-40. Half of the patients had predisposing cardiac conditions, including 9 patients who had prior endocarditis, and 11/99 had prosthetic valves or intracardiac devices. Most of the patients had significant comorbidities and the mean Charlson Comorbidity Index (CCI) was 5 mg/dL. 58% of the patients had staphylococcal endocarditis, including 18 who had MRSA bacteremia. One-third of the patients were transferred for a higher level of care and 44% of the patients had indications for surgery. The one-year mortality was 33%. By multi-variate analysis, predictors of death included age greater than 75, CCI greater than 6.5, and MRSA endocarditis. Transfer to a tertiary care center or indications for surgery did not affect survival.

In sharp contrast, in a study of infective endocarditis at a community hospital published 50 years ago, only 43% of the patients were older than 70 and only 6 out of 40 had major underlying disease [3]. Rheumatic heart disease was the most common underlying cardiac condition. The cause of endocarditis was streptococcal in 77%, and only 17% had IE caused by *Staphylococcus aureus*. There were no patients with IDU or MRSA infection. The mortality rate was 18%.

The gold standard of the treatment of IE is the administration of significant courses of parenteral bactericidal antibiotics. Administering weeks of intravenous antibiotics is often challenging, particularly in patients with IDU and in patients who have advanced age and frailty. None of the patients in our study received oral antibiotics, but there are now multiple studies looking at the efficacy of oral antibiotics in selected patients with endocarditis. Iverson, et al., published the results of two randomized trials that examined 400 patients with left sided IE, comparing oral versus intravenous therapy [4]. The most common etiologies were streptococcal and enterococcal, but 47 patients were infected with *S. aureus*. All of the patients were stable at randomization and subjects in the oral arms received a brief course of intravenous antibiotics before being changed to oral agents. The primary outcome was a composite of all-cause mortality, unplanned cardiac surgery, embolic events, or relapse of bacteremia with the primary pathogen. There was no difference in outcome in patients treated with oral (9%) vs. intravenous (12%) regimens. Future trials of endocarditis will include increasing numbers of patients treated with oral antibiotics.

References

1. Østergaard L, Voldstedlund M, Bruun NE, Bundgaard H, Iversen K, et al. (2022) Temporal changes, patient characteristics, and mortality, according to microbiological cause of infective endocarditis: A nationwide study. J Am Heart Assoc 11:e025801.
2. Yang JY, Tavares L, Moon SJ, Yoo TK, Wagner L, et al. (2024) Endocarditis in a community teaching hospital the framingham experience. Infect Dis Clin Pract 32:e1342.
3. Venezio FR, Westenfelder GO, Cook FV, Emmerman J, Phair JP (1982) Infective endocarditis in a community hospital. Arch Intern Med 142:789-792.
4. Iverson K, Ihlemann N, Gill S, Madsen T, Elming H, et al. Partial oral versus intravenous antibiotic treatment of endocarditis. N Engl J Med 380:415-424.