Successful Management of Osteomyelitis in Infectious Disease Physician Office Infusion Centers (POICs)

John S. Adams, MD, FIDSA, FSHEA1; Richard C. Prokesch, MD, FACP, FIDSA2; Robin H. Dretler, MD, MPH2; Brian Metzger, MD, MPH3; Guyen Luu, MD4; Andrew H. Krinsky, MD4; Claudia Schroeder, PharmD, PhD5; Lucinda J. Van Anglen, PharmD6

1Knoxville Infectious Disease Consultants, PC, Knoxville, TN; 2Infectious Disease Associates, Riverdale, GA; 3Infectious Disease Specialists of Atlanta, P.C.; 4Declar, GA; 5Austin Infectious Disease Consultants, Austin, TX; 6Guyen Luu, M.D., Macao, GN; Infectious Disease Associates, Alpharetta, GA; PEAK Infectious Disease Therapy, Inc., Sugar Land, TX.

Abstract

Background: Outpatient parenteral antibiotic therapy (OPAT) is the standard of care for osteomyelitis (OM) due to its cost-effectiveness and patient health outcomes. Studies include controlled trials of 90% of OM patients with acceptable rates of clinical success for OPAT. A multicenter, retrospective review was performed of confirmed cases.

Methods: 94 POICs with available culture data treated at 10 POICs in 2014. Data included demographics, pathogens, 14-day regimen, culture-negative, 30-day, and 90-day outcomes of OM patients. Rates of OPAT completion were evaluated and compared to the healthcare system. Other analyses included age, gender, location prior to OPAT, surgical history, and complications.

Results: 188 sites, mean age 56 (range 20-75) were identified. Mean 30-day readmission rate was significantly less for POIC pts than HCUP (32 vs. 42%; p=0.005). 100% of sites reported more than 1 OM patient treated. Treatment with OPAT was 83% (n=157/188) for pts with confirmed OM. The most common pathogens were Staphylococcus aureus (76%), Streptococcus pneumoniae (28%), and other gram-positive bacteria (11%). Failure rates were significantly less for MRSA (10%) than MSSA (19%). No associated complications were noted. Overall, 3-month relapse rate was significantly less for POIC pts than HCUP (17% vs. 42%; p=0.005). A greater percentage of patients were found to be readmitted due to OM in the HCUP setting compared to those treated in the POIC setting. Conclusion: The overall success rates of OPAT in the POIC setting were superior to those in the HCUP setting.

Introduction

Methods: A multicenter, retrospective review was performed of confirmed cases (n=188) treated at 10 POICs in 2014. Only pts with culture data were included in the analysis. Pts were followed for 4 months following the completion of OPAT. Data collected included demographics, pathogen identification, microbiology, OM location, hospital infection, and complications. Results: 100% of sites reported more than 1 OM patient treated. Treatment with OPAT was 83% (n=157/188) for pts with confirmed OM. The most common pathogens were Staphylococcus aureus (76%), Streptococcus pneumoniae (28%), and other gram-positive bacteria (11%). Failure rates were significantly less for MRSA (10%) than MSSA (19%). No associated complications were noted. Overall, 3-month relapse rate was significantly less for POIC pts than HCUP (17% vs. 42%; p=0.005). A greater percentage of patients were found to be readmitted due to OM in the HCUP setting compared to those treated in the POIC setting. Conclusion: The overall success rates of OPAT in the POIC setting were superior to those in the HCUP setting.

Discussion

This retrospective study detailed the successful management of osteomyelitis via OPAT in a POIC setting. At the end of 3 months, 92% of pts were either cured or improved. Comparison of relapse rates with historical controls showed a low rate of osteomyelitis recurrences following POIC-based OPAT.

- 17% (p=0.005) reduced hospitalization for OPAT during continued outpatient antibiotic management compared to HCUP.
- 10.5% (p=0.04) improved surgical intervention (inclusion & drainage of abscesses) over time due to the improved clinical response in the OPAT setting.
- There was no statistical significance in success rates for pts who received surgical interventions vs. those who did not.

Conclusion

This study showed that osteomyelitis can be managed with OPAT in a POIC setting with high rates of clinical success (90%) and improved outcomes. Further control investigations with larger patient populations may help reinforce the results of this study.

References


October 7, 2011

IDWeek 2015: 1518

Knoxville Infectious Disease Consultants, P.C.

IDWeek 2015