

CULTURE POSITIVITY RATE FOR BONE BIOPSY OF THE FOOT

Henry Ford Hospital – Detroit, Michigan



Zachary Beswick, M.D.

Rachel Cho, M.D.

Beatrice Knisely, M.D.

Gary Tran, M.D.

Parth Patel, M.D.

Joseph Craig, MB ChB

Chad Klochko, M.D., M.S.

Introduction

Our institution performs fluoroscopic guided bone biopsies of the foot in patients suspected of osteomyelitis. The purpose of this study was to determine the culture positivity rate from 242 consecutive bone biopsies of the foot, and to determine how this affected clinical management.

Methods and Materials

We reviewed the electronic medical record of data from bone biopsies for infection of the foot in 242 patients. 176 patients (73.0%) were diabetic patients; 65 (27%) were nondiabetic

patients; and in one patient, we did not have the status information. The patients' ages ranged from 15.0 -93.0 years with mean age of 58.27 years. All patients had radiographic or MR findings suggestive or diagnostic of osteomyelitis. The biopsies were performed under fluoroscopic guidance from one or more passes of a 17-gauge Ostycut needle (Becton, Dickinson and Company 1 Becton Drive Franklin Lakes, NJ) into the clinically and radiologically area of suspicion for infection. More than one pass was performed if the first pass yielded an inadequate bone core.

Results

Overall positive rate of growth of bacteria was 24.4%. There was a broad spectrum of bacterial growth in the positive cases including *S Aureus*, *S epidermidis*, Group B Strep, Alpha hemolytic Strep Enterobacter Cloace, *E coli*, *Bacteroides* and *Pseudomonas*, amongst others. There was no statistically significant difference in the rate of growth between diabetic and nondiabetic patients (25.6% vs. 21.5%, $p = 0.519$). There was no significant difference in the rate of growth between those on antibiotics and not on antibiotics (22.7% vs 27.3%, $p 0.428$). In patients who had been on antibiotics, there was an average time of 4.18 days cessation before biopsy. In patients whose cultures had bacterial growth, 70% had a change of antibiotic treatment (17% of the total patients). In all patients with no growth of bacteria there was no change in antibiotics.

Conclusion

The rate of bacterial growth (25.6% in diabetic patients and 21.5% in nondiabetic patients) was higher than we expected. 70% of patients whose cultures had bacterial growth had their antibiotics changed to target those bacteria more specifically. There was no statistical difference in growth between diabetic and nondiabetic patients. There was no significant difference in the rate of growth between the patients on or not on antibiotics.

References

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