Do Positive Anaerobic Culture Results Affect Physicians’ Clinical Management Decisions?

Schweta Arakali, MD1, Tilly Varughese, MD1, Susan Boruchoff, MD1,2 and Tanaya Bhowmick, MD1,2
Rutgers Robert Wood Johnson Medical School, Department of Internal Medicine1 and Division of Infectious Diseases2

INTRODUCTION
Aerobic and anaerobic cultures from body fluids, abscesses and wounds are often ordered routinely. Prior studies have shown that the results of anaerobic blood cultures do not frequently lead to changes in patient management, as recognition of the presence of clinical risk factors for anaerobic bacteremia has already led to inclusion of anaerobic coverage in the initial, empiric antimicrobial regimen. We sought to determine whether results of anaerobic tissue and fluid cultures, with the exception of blood, affect physicians’ treatment approaches.

METHODS
• Retrospective chart review of all adult inpatients with positive anaerobic body tissue/fluid cultures between January 1, 2012 and December 31, 2012. At this time, all physician documentation was in paper charts.
• Culture data obtained from the electronic medical record, Sunvue Clinical Systems (SCS).
• Data collected included subjects’ ages, co-morbidities, hospital service, initial antibiotic regimen, acknowledgement in the chart of positive anaerobic culture results, changes in regimen based on results, and whether or not Infectious Disease consultation was obtained.
• Anaerobic cultures were considered acknowledged by physicians if culture results were documented in the lab/progress note or written in the assessment/plan section of the physician progress note. No culture results were considered acknowledged if they were noted on the culture report only.

RESULTS
• Of note, in 25% of cases (n=28), results were reported after the patient was discharged, so no assessment of response was possible.
• 75% (n=115) with positive anaerobic cultures were on empiric antibiotic coverage for anaerobes. In the 14 of 115 cases where results were available prior to discharge and antibiotics were changed, all led to narrowing of antimicrobial spectrum.
• For the remaining 25% (n=28), no empiric antibiotic, the culture result led to regimen change in 10% (n=3). There were no regimen changes in cases without physician acknowledgement of culture results.
• Approximately 50% of patients whose cultures were available before discharge and acknowledged by physicians had their regimen altered.

CONCLUSIONS AND LIMITATIONS
• Positive anaerobic body fluid culture results infrequently affect physicians’ treatment decisions.
• Majority of patients whose wound/fluid cultures grew anaerobes were empirically treated with a regimen that included an agent active against the anaerobes that ultimately grew, and very few regimens were changed when definitive results became available.
• Study suggests limited utility of routine anaerobic tissue/blood culture guiding physician’s decisions.
• Suggestive of significant opportunity for cost saving if anaerobic cultures from all sites are not routinely processed.

Limitations:
• Chart review may underestimate awareness of results and decisions based thereon, if important physician thought processes and communication are not documented.

REFERENCES