

XVIII. In Adults in Intensive Care Units (ICUs) With Suspected Infection, Should ASPs Advocate Procalcitonin (PCT) Testing as an Intervention to Decrease Antibiotic Use?

Recommendation

19. In adults in ICUs with suspected infection, we suggest the use of serial PCT measurements as an ASP intervention to decrease antibiotic use (*weak recommendation, moderate-quality evidence*).

Comment: Although randomized trials, primarily in Europe, have shown reduction in antibiotic use through implementation of PCT algorithms in the ICU, similar data are lacking for other regions including the United States where the patterns of antibiotic prescribing and approach to stewardship may differ. If implemented, each ASP must develop processes and guidelines to assist clinicians in interpreting and responding appropriately to results, and must determine if this intervention is the best use of its time and resources.

XIX. In Patients With Hematologic Malignancy, Should ASPs Advocate for Incorporation of Nonculture-Based Fungal Markers in Interventions to Optimize Antifungal Use?

Recommendation

20. In patients with hematologic malignancy at risk of contracting invasive fungal disease (IFD), we suggest incorporating nonculture-based fungal markers in ASP interventions to optimize antifungal use (*weak recommendation, low-quality evidence*).

Comment: ASPs with an existing intervention to optimize antifungal use in patients with hematologic malignancy can consider algorithms incorporating nonculture-based fungal markers. Those interventions must be done in close collaboration with the primary teams (eg, hematology-oncology). Antibiotic stewards must develop expertise in antifungal therapy and fungal diagnostics for the programs to be successful. The value of those markers for interventions in other populations has not been demonstrated.

Measurement

XX. Which Overall Measures Best Reflect the Impact of ASPs and Their Interventions?

Recommendation

21. We suggest monitoring antibiotic use as measured by days of therapy (DOTs) in preference to defined daily dose (DDD) (*weak recommendation, low-quality evidence*).

Comment: Every ASP must measure antibiotic use, stratified by antibiotic. DOTs are preferred, but DDDs remain an alternative for sites that cannot obtain patient-level antibiotic use data. ASPs should consider measurement of appropriate antibiotic use within their own institutions by examining compliance with local or national guidelines, particularly when assessing results of a targeted intervention, and share

that data with clinicians to help inform their practice. Although rates of CDI or antibiotic resistance may not reflect ASP impact (because those outcomes are affected by patient population, infection control, and other factors), those outcomes may also be used for measurement of targeted interventions.

XXI. What is the Best Measure of Expenditures on Antibiotics to Assess the Impact of ASPs and Interventions?

Recommendation

22. We recommend measuring antibiotic costs based on prescriptions or administrations instead of purchasing data (*good practice recommendation*).

XXII. What Measures Best Reflect the Impact of Interventions to Improve Antibiotic Use and Clinical Outcomes in Patients With Specific Infectious Diseases Syndromes?

Recommendation

23. Measures that consider the goals and size of the syndrome-specific intervention should be used (*good practice recommendation*).

Special Populations

XXIII. Should ASPs Develop Facility-Specific Clinical Guidelines for Management of Fever and Neutropenia (F&N) in Hematology-Oncology Patients to Reduce Unnecessary Antibiotic Use and Improve Outcomes?

Recommendation

24. We suggest ASPs develop facility-specific guidelines for F&N management in hematology-oncology patients over no such approach (*weak recommendation, low-quality evidence*).

Comment: Clinical guidelines with an implementation and dissemination strategy can be successfully used in the care of cancer patients with F&N and are strongly encouraged.

XXIV. In Immunocompromised Patients Receiving Antifungal Therapy, do Interventions by ASPs Improve Utilization and Outcomes?

Recommendation

25. We suggest implementation of ASP interventions to improve the appropriate prescribing of antifungal treatment in immunocompromised patients (*weak recommendation, low-quality evidence*).

Comment: In facilities with large immunocompromised patient populations, ASP interventions targeting antifungal therapy can show benefit. Those interventions must be done in close collaboration with the primary teams (eg hematology-oncology, solid organ transplant providers). Antibiotic stewards must develop expertise in antifungal therapy and fungal diagnostics for the programs to be successful.