Reducing Collateral Damage Associated With Antibiotic Treatment: Do Less Harm

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The practice of infectious diseases tends to be an academic pursuit of evidence-based diagnostic workups and implementation of proven infectious disease care. With each passing year, the complexity of our role increases as we deal with issues such as multidrug resistance, antibiotic stewardship, and cost constraints, making it increasingly difficult to manage our patients in the most effective manner. Additionally, some degree of collateral damage is the rule with antibiotic treatment, not the exception. All too often, and despite our best efforts, this collateral consequence includes Clostridium difficile infection in our patients, at our institutions and in our communities. The antibiotic steward’s most rigorous narrowing of the antibiotic spectrum cannot achieve activity restricted to the target pathogen alone, and even de-escalation to penicillin maintains activity against a wide variety of unintended organisms.

This treatment conundrum places us at a disadvantage, but as there have been few reliable alternatives, we proceed with this approach on a daily basis. Proven therapeutic efforts to maintain, restore, or improve the microbiome that we inadvertently destroy every day of our practicing careers would be a welcome addition to our current armamentarium.

To that end, enthusiasm about potential benefits of probiotics continues to escalate both in the United States and internationally. This enthusiasm is fostered by consumers interested in potential health benefits, as well as clinicians whose focus and interest is tempered by the scarcity of reliable data in the field. According to the World Health Organization, probiotics are live microorganisms that, when administered in adequate amounts, confer a health benefit on the host. The term probiotic is used specifically for preparations that contain an adequate number of live organisms documented to yield particular health benefits. Ideally, probiotics should be labeled with regard to strain, quantity, and viability at the time of manufacture as well as ingestion, and proven health benefits.

In this supplementary issue of Clinical Infectious Diseases, several thought leaders in the field of probiotics present data and perspectives on this topic. The focus is toward furthering the understanding and value of attempts at restoring the gastrointestinal microbiome in an effort to reduce or prevent C. difficile infection associated with appropriate antibiotic treatment.

Notes

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