Title: *Stenotrophomonas* Smackdown: Combination vs. Monotherapy for *Stenotrophomonas maltophilia*

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Presenter:

Hanna Gosliak Jamison, PharmD

PGY-1 Acute Care Pharmacy Resident

UPMC Presbyterian Hospital

Learning Objectives:

1. Define the characteristics of *Stenotrophomonas maltophilia* infections and the specific populations it commonly affects
2. Discuss the different treatment options available for patients with *Stenotrophomonas maltophilia* infections
3. Explain the current approach to treatment based on available literature comparing combination versus monotherapy

Abstract:

Stenotrophomonas maltophilia is a gram-negative bacillus that has increasing incidence among nosocomial pathogens.[1] It most commonly infects immunocompromised hosts and usually manifests as pneumonia or bacteremia, which carries a significant morbidity and mortality risk.[1,2] However, *S. maltophilia* is often recovered as a competent of polymicrobial infections and it is difficult to distinguish if *S. maltophilia* represents a colonizer or a true pathogen.[1] There is currently no standard of care antibiotic regimen for the treatment of *S. maltophilia* infections, specifically with debate between the additive benefit of combination therapy.[1] The IDSA guidelines recommend combination therapy, but UPMC Presbyterian guidelines recommend monotherapy.[1] CLSI has established breakpoints for four antimicrobial agents: cefiderocol, levofloxacin, minocycline, and trimethoprim-sulfamethoxazole, but there is limited pharmacokinetic/pharmacodynamic data to correlate MICs and clinical outcomes.[1,3] The

aim of this presentation is to review the available literature comparing combination and monotherapy regimens for *Stenotrophomonas maltophilia* infections.

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Audience Response Questions:

1. Which of the following patients is at the highest risk of *S. maltophilia* infection?
    a. A 29-year-old female who presents to her primary care physician with a productive cough and sputum production for 4 days
    b. A 36-year-old male who has leukemia and was recently treated with a course of meropenem for neutropenic fever
    c. A 54-year-old male who stepped on a rusty nail and presents to the emergency room with concern for an SSTI
    d. An 85-year-old female with COPD who presents to her primary care physician with fever, weakness, and confusion

2. Which of the following is an appropriate treatment option for *S. maltophilia* according to the IDSA guidelines?
    a. Ceftazidime-avibactam + aztreonam
    b. Trimethoprim/sulfamethoxazole
    c. Ceftazidime + minocycline
    d. Levofloxacin + cefepime
3. Which of the following treatment options is NOT recommended at our institution due to intrinsic resistance?
    a. Minocycline
    b. Levofloxacin
    c. Trimethoprim/sulfamethoxazole
    d. Cefepime