INTRODUCTION

• The growing epidemic of Antibiotic Resistance is directly related to the level of antibiotic use.
• Prior treatment of a patient with commonly used antibiotics greatly increases that person’s risk of infection with an antibiotic-resistant organism.
• A key contributing factor to antimicrobial misuse in patients with wounds is diagnostic uncertainty—Is there a bacterial infection in this wound?

Possible Solutions to this worldwide problem:

1. Rapid diagnostic tests for presence of bacterial infection, clinician and patient education
2. Obtain optimal specimens for culture prior starting therapy (usually associated with 24-48 delay).

METHODS

Bacterial Fluorescence Imaging (MolecuLight i:X)

• When excited by 405 nm violet light, tissues fluoresce green while Bacterial Fluorescence Imaging (MolecuLight i:X) or cyan (pyoverdine producers, e.g. Staphylococcus aureus) or cyan (pyoverdine-producing Pseudomonas aeruginosa).
• This enables real-time, point-of-care detection and localization of bioburden within and around wounds

Bacterial Fluorescence Imaging Prevented Discharge of Two Pressure Injury Patients Requiring Systemic Antibiotics

Case 1: Pressure Injury - Coccyx

93-year-old female patient originally admitted for pneumonia developed a pressure injury during her hospital stay. Her respiratory status improved and respiratory doctors inquired about discharge/transfer off the acute ward. Bacterial fluorescence imaging revealed and documenting widespread bioburden in and around her wound resulted in systemic antibiotics and a suspension of all plans for immediate discharge. Swabs confirmed heavy growth of mixed anaerobes.

Case 2: Pressure Injury - Coccyx

63-year-old female lymphoma patient presented in outpatient chemotherapy unit for follow up; sacral ulcer revealed. Unit intended to discharge patient home, until bacterial fluorescence images documented significant bioburden, leading to hospitalization and systemic antibiotics. Swabs confirmed heavy growth of Staphylococcus aureus and E. coli.

RESULTS

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Case 1: Pressure Injury - Coccyx

Bacterial Fluorescence Image Prevented Discharge of Two Pressure Injury Patients Requiring Systemic Antibiotics

Case 2: Pressure Injury - Coccyx


REFERENCES