**Gram-Negative Bacteremias: Frequency of an IOTA (Intravenous to Oral Transition of Antimicrobial Therapy)**

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**Purpose:** Several retrospective cohort studies suggest that conversion to oral therapy for gram-negative bacteremia has similar outcomes to IV regimens, and several experimental and observational studies support a “step-down” from initial IV therapy to oral therapy, particularly from a urinary source. The common pathogens were *Escherichia coli* and *Klebsiella pneumoniae*. The benefits of transitioning patients from IV to oral antibiotic therapy are well-recognized. The purpose of this study was to collect information about patients who have been hospitalized with a gram-negative bacteremia (from a urinary source) and to discover the frequency at which these patients were transitioned to oral antibiotics.

**Methods:** This retrospective cohort study was performed at HSHS St. John’s Hospital in Springfield, IL from January 1st, 2019 to May 31st, 2022. The primary objective of this study was to assess the percentage of patients with a gram negative bacteremia (from a urinary source) who were 1. able to be and 2. subsequently switched from IV to oral antibiotics. The secondary objective was to create a protocol for pharmacists to assess patient eligibility to transition from IV to oral antibiotic therapy in the presence of a gram-negative bacteremia from a urinary source. Patients were included in the study if they were 18 years or older, had a positive blood culture test for *Escherichia coli* or *Klebsiella pneumoniae* (that were susceptible to oral antibiotics), had a monomicrobial infection from a urinary source, had signs of clinical improvement, were able to take oral medication, received at least 24 hours of IV therapy.

**Results:** Twenty eight patients out of 100 (28%) with a gram negative bacteremia met the above eligibility criteria to be switched from intravenous to oral antibiotics. Seventy one percent of patients (20/28) were switched from IV to oral antibiotics for the completion of their treatment course. Twenty nine percent (8/22) who were eligible for oral therapy were not switched. It was not clear why patients were not switched, due to the retrospective nature of the study.

**Conclusion:** Most patients who met the inclusion criteria derived by previous studies were switched from IV to oral antibiotics in the presence of monomicrobial *E. coli* or *Klebsiella pneumoniae* bacteremia from a urinary source with clinical improvement. According to our results, there appears to be an opportunity to transition more patients from IV to oral with a gram negative bacteremia.