

HENRY FORD HEALTH



**HENRY FORD HEALTH +
MICHIGAN STATE UNIVERSITY**
Health Sciences



**International
Vaccine
Institute**

Integrated Activity and Tools for Antimicrobial Stewardship, Infection Prevention & diagnostic Stewardship

Role Playing Breakout Session



CAPTURA

Capturing data on Antimicrobial resistance
Patterns and Trends in Use in Regions of Asia



TACE ASIA
Technical Assistance for Clinical Engagement

M M
MOTT
MACDONALD



The Fleming Fund
Regional Grants

What is SBAR?

Technique used to facilitate prompt and appropriate communication.

S – Situation

B – Background

A – Assessment

R – Recommendation

Situation

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Role Play: *Pharmacy* + *Provider*

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Provider: Hello, I have a patient who is a 54-year-old male with a PMH of HTN, HLD, and EtOH cirrhosis admitted after presenting with fever and abdominal pain. Advanced GI was consulted due to concerns for cholangitis and recommended an ERCP. Two days later, the patient became febrile and tachycardic with leukocytosis. Blood cultures were drawn and vancomycin and piperacillin-tazobactam were initiated for sepsis.

Vitals	
T	39°C
BP	142/88 mmHg
HR	103 bpm
RR	22 bpm

Complete Metabolic Panel	
Na ⁺	143 mmol/L
K ⁺	3.8 mmol/L
Cl ⁻	101 mmol/L
CO ₂	20 mmol/L
BUN	21 mg/dL
Scr	0.97 mg/dL
Glucose	95 mg/dL

Complete Blood Count	
WBC	25 K/uL
Hgb	12.9 g/dL
Hct	37%
Plt	325 K/uL

Timeline

- 02/18/2024 - CT Abdomen/Pelvis - Thickening of walls of bile ducts, dilatation of biliary ducts
- 02/19/2024 - ERCP – High grade bile leak
- 02/21/2024 - CT Abdomen/Pelvis – Moderate volume ascites
- 02/22/2024 - Peritoneal drainage – 250 cc dark fluid drained



Provider: Can you help me select an empiric antibiotic regimen?



Pharmacist: Certainly! It would be helpful to go through this patient's cultures and susceptibilities first.

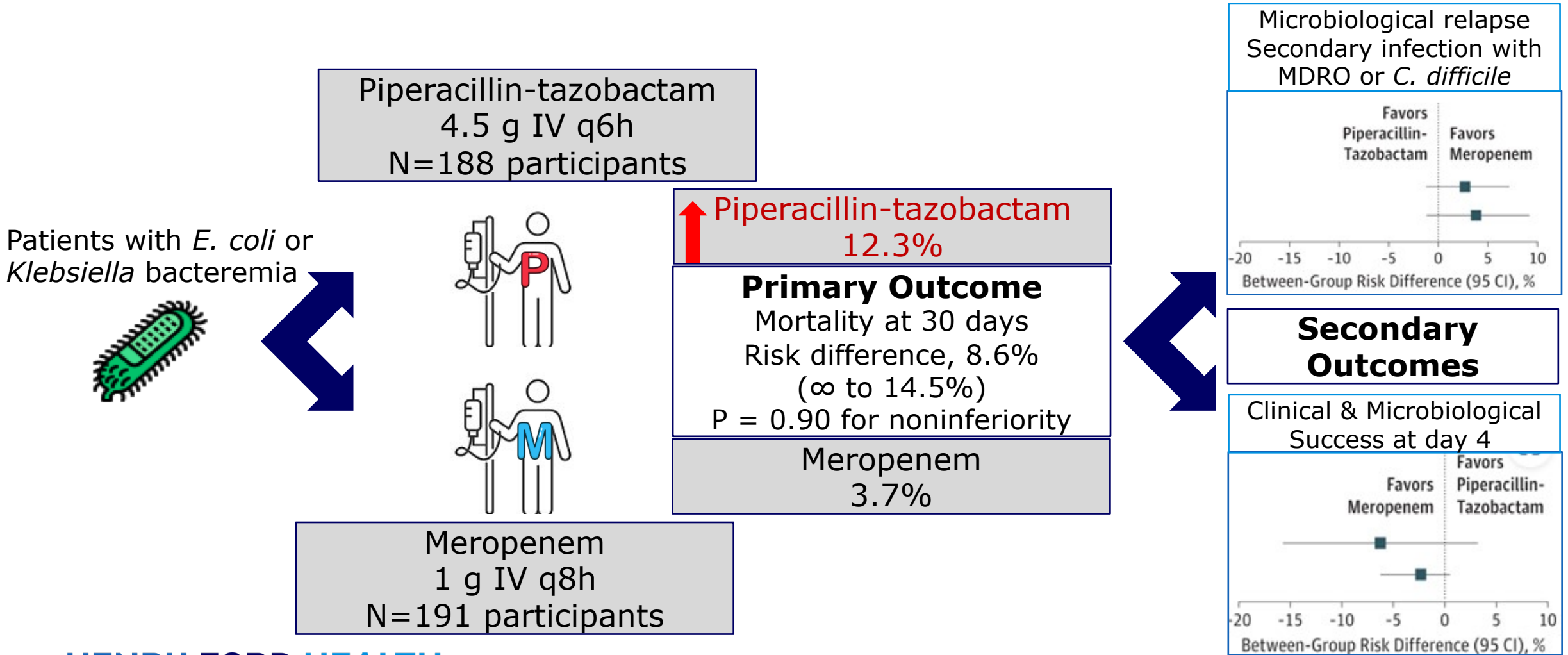
What regimen would you recommend for this patient and how?

Microbiology	
<u>Blood & Peritoneal Fluid Culture</u>	<i>Escherichia coli</i>
Susceptibility - MIC & Interpretation	
Ampicillin	≥32 ug/mL; Resistant
Ampicillin/Sulbactam	16 ug/ml; Intermediate
Piperacillin-Tazobactam	≤4 ug/mL; Susceptible
Ciprofloxacin	0.5 ug/mL; Intermediate
Ceftriaxone	≥64 ug/mL; Resistant
Cefepime	<1 ug/mL; Susceptible
Ertapenem	≤0.5 ug/mL; Susceptible
Meropenem	≤0.25 ug/mL; Susceptible
Trimethoprim-Sulfamethoxazole	≤20 ug/mL; Susceptible
Aztreonam	16 ug/mL; Resistant

Background

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MERINO Trial: Piperacillin-tazobactam vs meropenem in patients with ceftriaxone resistance *E. coli* or *Klebsiella* spp.



Let's Bring this to the 2023 IDSA Guidelines

Preferred antibiotics for the treatment of infections outside of the urinary tract caused by ESBL-E?

Preferred treatment:
meropenem or ertapenem

After appropriate clinical response is achieved **transition to oral:**
trimethoprim-sulfamethoxazole, ciprofloxacin, or
levofloxacin (if susceptibility is demonstrated)

Assessment

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Disadvantages of carbapenem-sparing alternative therapies for ESBL producers

Antibiotic	Disadvantages
Piperacillin/tazobactam	<ul style="list-style-type: none">• Failed to demonstrate non-inferiority against meropenem in an RCT of patients with BSIs• Efficacy frequently compromised by presence of OXA-1 co-production• Unreliable susceptibility results with automated systems in ESBL producers
Cefepime	<ul style="list-style-type: none">• May be hydrolyzed by some ESBLs• Propensity matched observational study showed higher mortality with cefepime vs. carbapenems, even when cefepime susceptibility was demonstrated.

Recommendation

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What regimen would you recommend for this patient and how?

Recommendation

**Consider initiating a carbapenem:
Ertapenem 1 g IV q24h
for ESBL *E. coli*
(Provides anaerobic coverage too)**

Discharge Planning: Consider transitioning to **trimethoprim-sulfamethoxazole 1 DS PO q12h** once clinically stable

Interdisciplinary Break Out Session

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Break-Out Session

- We will break out by roles (nurses, pharmacists, physicians)
 - Each team will sit at one table
 - Assign one person to please present the discussion to the group

Breakout Questions

- 1) What prior training/education have you had in AMS, if any?
- 2) For facilitators and participants:
 - 1) Describe an example of your success in ASP.
 - 2) What were your greatest challenges/barriers?
 - 3) What were your greatest enablers?
- 3) What is a single priority for your role that you plan to bring back to your institution?
- 4) How will you use PDSA cycle to address the priority that your facility identified?



20 minutes...



Group 1 – Nurses

- What is your key priority for your role in the AMS team

Group 2 – Pharmacists

- What is your key priority for your role in the AMS team

Group 3 – Physicians

- What is your key priority for your role in the AMS team

Group 4 – Microbiologists

- What is your key priority for your role in the AMS team

Group 5 – Medical Recorder Officers

- What is your key priority for your role in the AMS team

Summarizing Key Points from All

	Nurses	Pharmacists	Physicians	Microbiologists	Medical Recorder Officers
Leadership					
Accountability					
AMS actions					
Education					
Monitoring					
Feedback					

**What comments or
questions do you have?**