



# Secondary BSI Group Exercise ENDO and GIT Case Study

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## Case Study Part 1: Mr. Oliver Pope

- **3/1:** 55 year-old male admitted with chills and fatigue. PMH: IVDU, Diabetes and Diverticulitis. PICC placed due to poor venous access
  - Blood cultures collected: MRSA positive x 4; Vancomycin started
- **3/2:** TEE – “echodensity with the triscupid valve consistent with vegetation”
- **3/4:** Blood cultures collected again. MRSA positive x 2
- **3/9:** Patient reports feeling better. Wants to go home

# What Determination Should Be Made In This Case?

- A. HAI ENDO 7 with secondary BSI
- B. POA ENDO 5 with secondary BSI
- C. POA ENDO 4 with secondary BSI
- D. POA BSI (LCBI 1)

# What Elements Were Used To Make This Determination?

## What About the 3/4 MRSA Blood Cultures?

- A. BSI (LCBI 1)/ CLABSI
- B. POA ENDO 4 with secondary BSI
- C. HAI BSI (LCBI 1)
- D. POA BSI (LCBI 1)

## What Scenario Was Applied In This Case?

- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

# If This Patient Has Subsequent MRSA Blood Cultures, I Can Add Them to the ENDO SBAP

- A. True
- B. False

# Case Study Part 1

With Answers

# What Determination Should Be Made In This Case?

- A. HAI ENDO 7 with secondary BSI
- B. POA ENDO 5 with secondary BSI
- C. POA ENDO 4 with secondary BSI
- D. POA BSI (LCBI 1)

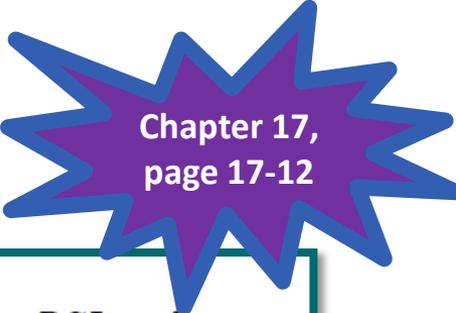
# What Elements Were Used To Make This Determination?

- POA ENDO 4 cited 3/1
- 3/1 MRSA blood cultures created
  - 2/27 – 3/11 ENDO IWP
    - 3/2 TEE captured
- POA ENDO RIT: 3/1 – End of Current admission
- ENDO SBAP: 2/27 – End of Current admission

Date	Diagnostic Test	Symptoms	IWP	DOE	RIT	SBAP	
2/27			IWP			2/27 - End of Current admission	
2/28							
3/1	MRSA Blood cultures x 4				Date of Event 3/1/2019		3/1 - End of Current admission
3/2	TEE - echodensity with the tricuspid valve consistent with vegetation						
3/3							
3/4							
3/5							
3/6							
3/7							
3/8							
3/9							
3/10							
3/11							
3/12							
3/13							
3/14							
3/15							
3/16							

## What About the 3/4 MRSA Blood Cultures?

- A. BSI (LCBI 1)/ CLABSI
- B. POA ENDO 4 with secondary BSI
- C. HAI BSI (LCBI 1)
- D. POA BSI (LCBI 1)



Chapter 17,  
page 17-12

- *As a result of this lengthy secondary BSI attribution period, secondary BSI pathogen assignment for ENDO, is limited to organism(s) identified in blood specimen that match the organism(s) used to meet the ENDO definition.*

## What Scenario Was Applied In This Case?

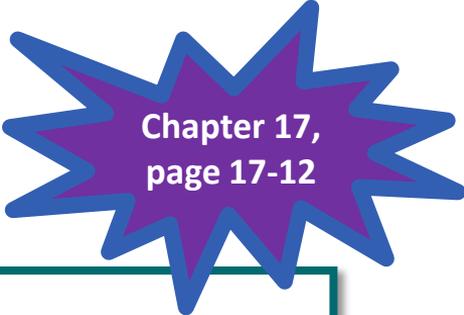
- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

**Scenario 2:** An organism identified in the blood specimen is an element that is used to meet the NHSN site-specific infection criterion, and therefore is collected during the site-specific infection window period.

# If This Patient Has Subsequent MRSA Blood Cultures, I Can Add Them to the ENDO SBAP

A. True

B. False



Chapter 17,  
page 17-12

- *As a result of this lengthy secondary BSI attribution period, secondary BSI pathogen assignment for ENDO, is limited to organism(s) identified in blood specimen that match the organism(s) used to meet the ENDO definition.*

# Case Study Part 2

## Case Study Part 2: Mr. Oliver Pope

- **3/10:** Despite Mr. Pope wanting to go home, he's still admitted.
- **3/12:** Blood cultures collected. *Klebsiella pneumoniae*
- **3/14:** LLQ Abdominal pain “7” out of 10.
  - 103°F and diarrhea
- **3/15:** CT scan— “Loculated fluid collection in the bowel wall. Consistent with abscess”

## What Determination Should Be Made In This Case?

- A. 3/1 ENDO 4 with secondary BSI
- B. 3/12 GIT 2c with secondary BSI
- C. 3/12 IAB 3b with secondary BSI
- D. 3/12 BSI (LCBI 1)/CLABSI

# What Elements Were Used To Make This Determination?

## What Scenario Was Applied In This Case?

- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

# Case Study Part 2

With Answers

## What Determination Should Be Made In This Case?

- A. 3/1 ENDO 4 with secondary BSI
- B. 3/12 GIT 2c with secondary BSI
- C. 3/12 IAB 3b with secondary BSI
- D. 3/12 BSI (LCBI 1)/CLABSI

# What Elements Were Used To Make This Determination?

- HAI GIT 2c cited 3/12
- Klebsiella pneumoniae creates GIT IWP: 3/9 – 3/15
  - 3/14 Fever and Abdominal pain
  - 3/15 CT Scan – “Loculated fluid collection in the bowel wall. Consistent with abscess”
- GIT RIT: 3/12 – 3/25
- GIT SBAP: 3/9 – 3/25

Date	Diagnostic Test	Symptoms	IWP	DOE	RIT	SBAP
3/9			IWP		RIT	SBAP
3/10						
3/11						
3/12	Blood culture - <u>Klebsiella pneumoniae</u>			Date of Event 3/12		
3/13						
3/14		Abdominal pain/ Fever - 103°F				
3/15	CT scan- <u>Loculated fluid collection in the bowel wall. Consistent with abscess</u>					
3/16						
3/17						
3/18						
3/19						
3/20						
3/21						
3/22						
3/23						
3/24						
3/25						

## What Scenario Was Applied In This Case?

- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

**Scenario 2:** An organism identified in the blood specimen is an element that is used to meet the NHSN site-specific infection criterion, and therefore is collected during the site-specific infection window period.

# Case Study Part 3

## Case Study Part 3: Oliver Pope

- 3/16 – Mr. Pope is still with us!
- 3/17 – 103°F; Chills reported. Abdominal pain
  - Blood cultures collected: *Candida albicans* x 2
- 3/18 – CT scan revealed large colonic abscess. Sent to Interventional Radiology.
  - IR drainage: Serosanguineous; Abscess culture: + *Candida albicans*
- 3/20 – TEE: “echodensity with tricuspid valve still present consistent with vegetation”

## What Determination Should Be Made In This Case?

- A. 3/17 GIT 2a with secondary BSI
- B. 3/17 GIT 2a with secondary BSI & 3/17 GIT 2c with secondary BSI
- C. 3/17 ENDO 6 with secondary BSI
- D. B, C

# What Elements Were Used To Make This Determination?

## What Scenario Was Applied In This Case?

- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

**If the 3/17 Blood Cultures Were Positive with only Pseudomonas, Would Your Determination Remain the Same? Why?**

A. Yes

B. No

# Case Study Part 3

With Answers

## What Determination Should Be Made In This Case?

- A. 3/17 GIT 2a with secondary BSI
- B. 3/17 GIT 2a with secondary BSI & 3/17 GIT 2c with secondary BSI
- C. 3/17 ENDO 6 with secondary BSI
- D. B, C

# What Elements Were Used To Make This Determination?

- GIT 2c initially met 3/12
- During GIT 2c 3/12 – 3/25 RIT
  - GIT 2c met again on 3/17
    - 3/17 Blood culture, abd pain, fever
    - 3/18 – Imaging test – Colonic abscess
    - 3/17 Candida blood culture deemed secondary.
  - GIT 2a met 3/17
    - 3/17 Fever and abdominal pain
    - 3/18 IR drainage culture – Candida albicans.
    - 3/17 Candida blood culture also deemed secondary

Date	Diagnostic Test	Symptoms	IWP	DOE	RIT	SBAP
3/9			IWP		RIT 3/12 - 3/25	SBAP 3/9 - 3/25
3/10						
3/11						
3/12	Blood culture - <u>Klebsiella pneumoniae</u>			Date of Event 3/12		
3/13		Abdominal pain/				
3/14		Fever - 103°F				
3/15	CT scan - <u>"Loculated fluid collection in the bowel wall. Consistent with abscess</u>					
3/16						
3/17	Blood culture - <u>Candida albicans</u>	Abdominal pain/ Fever - 103°F				
3/18	CT scan - Large colonic abscess/ IR Drainage - <u>Candida albicans</u>					
3/19						
3/20						

# What Elements Were Used To Make This Determination?

- **ENDO 6 cited 3/17 during RIT of POA ENDO.**
  - 3/17 Fever – 103°F
  - 3/17 Candida albicans blood culture
  - 3/20 – TEE: “echodensity with tricuspid valve still present consistent with vegetation
  - IVDU history

Date	Diagnostic Test	Symptoms	IWP	DOE	RIT	SBAP
3/12						
3/13						
3/14						
3/15						
3/16						
		Fever – 103°F / Blood Culture - Candida albicans				
3/17						
3/18						
3/19						
	TEE: echodensity with tricuspid valve still present consistent with vegetation					
3/20						
3/21						
3/22						
3/23						
3/24						
3/25						
3/26						
3/27						
3/28						
3/29						
3/30						
3/31						
4/1						
4/2						
4/3						

3/1 - End of Current admission

2/27 - End of Current Admission

## What Scenario Was Applied In This Case?

- A. Scenario 1
- B. Scenario 2
- C. Both
- D. Neither

# Both Scenarios Were Applied

## Scenario 1

At least one organism identified in the blood specimen meets the NHSN site-specific infection criterion **AND** the blood specimen is **collected during the secondary BSI attribution period (infection window period + repeat infection timeframe)**

GIT 2a with  
secondary  
BSI

## Scenario 2

An organism identified in the blood specimen is an element that is used to meet the NHSN site-specific infection criterion, and therefore is **collected during the site-specific infection window period**

GIT 2c with  
secondary BSI  
ENDO 6 with  
secondary BSI

**If the 3/17 Blood Cultures Were Positive with only Pseudomonas, Would Your Determination Remain the Same? Why?**

A. Yes

B. No

# Pseudomonas Blood Culture Rationale

2. Patient has at least **two** of the following signs or symptoms compatible with infection of the organ or tissue involved: fever ( $\geq 38.0^{\circ}\text{C}$ ), nausea\*, vomiting\*, pain\* or tenderness\*, odynophagia\*, or dysphagia\*

And at least **one** of the following:

- a. organism(s) identified from a culture or non-culture based microbiologic testing of a specimen obtained during an invasive procedure or from drainage from an abscess, for example, for purposes of clinical diagnosis or treatment, for example, for Active Surveillance and/or Active Surveillance Testing (ASC/AST).

**GIT 2a**

Pseudomonas blood culture cannot be deemed secondary to this criterion because the site-specific and blood cultures do not contain matching organisms.

2. Patient has at least **two** of the following signs or symptoms compatible with infection of the organ or tissue involved: fever ( $\geq 38.0^{\circ}\text{C}$ ), nausea\*, vomiting\*, pain\* or tenderness\*, odynophagia\*, or dysphagia\*

And at least **one** of the following:

- a. organism(s) identified from a culture or non-culture based microbiologic testing of a specimen obtained during an invasive procedure or from drainage from an abscess, for example, for purposes of clinical diagnosis or treatment, for example, for Active Surveillance and/or Active Surveillance Testing (ASC/AST).
- b. organism(s) seen on Gram stain, KOH stain or multinucleated giant cells seen on microscopic examination of a specimen obtained during an invasive procedure or from drainage from an abscess, for example, for purposes of clinical diagnosis or treatment, for example, for Active Surveillance and/or Active Surveillance Testing (ASC/AST). The organism(s) identified in the blood must contain at least one eligible organism (See Appendix A of the protocol)

**GIT 2c**

**AND**  
imaging test evidence suggestive of gastrointestinal infection (for example, endoscopic exam, MRI, CT scan), which if equivocal is supported by clinical correlation, specifically, physician documentation of antimicrobial treatment for gastrointestinal tract infection.

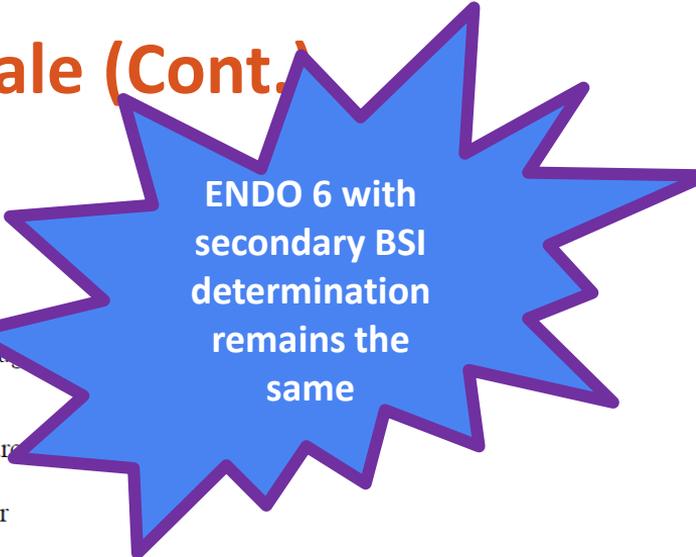
Pseudomonas blood culture cannot be deemed secondary to this criterion because the blood culture does not contain an eligible organism to cite GIT 2c

# Pseudomonas Blood Culture Rationale (Cont.)

6. At least **one** of the following\*†:
- vegetation on cardiac valve or supporting structures seen on echocardiogram
  - intracardiac abscess seen on echocardiogram
  - new partial dehiscence of prosthetic valve seen on echocardiogram

**And at least three of the following:**

- prior endocarditis, prosthetic valve, uncorrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use‡
- fever ( $>38.0^{\circ}\text{C}$ )
- vascular phenomena: major arterial emboli ( specifically, embolic stroke, renal infarct, splenic infarct or abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented
- immunologic phenomena: glomerulonephritis (documented in chart, or white cell or red blood cell casts on urinalysis), Osler's nodes, Roth's spots, or positive rheumatoid factor
- identification of organism(s) from the blood by at least **one** of the following methods:
  - recognized pathogen(s) identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment ,for example, not Active Surveillance Culture/Testing (ASC/AST)
  - same common commensal organism(s) identified from  $\geq 2$  blood collections drawn on separate occasions on the same or consecutive days by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical



ENDO 6 with  
secondary BSI  
determination  
remains the  
same