Data Collection

In order to support the growth of the ECHO movement, Project ECHO® collects participation data for each teleECHO™ program. This data allows Project ECHO to measure, analyze, and report on the movement’s reach. It is used in reports, on maps and visualizations, for research, for communications and surveys, for data quality assurance activities, and for decision-making related to new initiatives.
Recording

Today’s session will be recorded and distributed by Intermountain Healthcare both within Intermountain and to Intermountain’s outreach/telehealth customers and others for educational and quality improvement purposes.

By participating in this session, you consent to Intermountain’s inclusion and use of your name, likeness, and voice in this session’s recording.

Please do not reproduce or distribute this presentation.

Email questions or concerns to IntermountainProjectECHO@imail.org
EASIE ECHO: Education in Antimicrobial Stewardship and Idea Exchange

ED Callbacks Patient Cases

Dustin Waters, PharmD, BCPS (AQ-ID)
John Veillette, PharmD, BCPS, BCIDP
Stephanie Shealy, PharmD
ID/Antimicrobial Stewardship Pharmacists
Intermountain Healthcare
Overview

- Review commonly encountered cases for ED Callbacks
- Interactive case discussion
- Evidence-based approach to management
Case #1 (Riverton ED)

A 20-30 y/o female is seen for abdominal pain + diarrhea, also with baseline level of pelvic pain she says is typical (known history of endometriosis). She just returned from her honeymoon in Mexico.

- Labs: WBC 1.9, bands 23%
- Vitals: T 36.4, HR 72, RR 16, BP 118/75
- Imaging:
  - Abdominal ultrasound: normal
  - CT abdomen/pelvis: fluid throughout colon lumen, thickened colon wall consistent with mild acute enterocolitis
- Testing: GI PCR pending

Discharged on PO Augmentin x7 days
Case #1 (Riverton ED)

ED Callbacks Result:

- GI PCR: + Enteroaggregative E.coli (EAEC), + Enterotoxigenic E.coli (ETEC)
- Patient is afebrile, having 1-2 loose stools/day

What is the best approach to management?

A. No change needed – finish Augmentin x7 days
B. Decrease the Augmentin duration to 3 days
C. Change to oral FQ x3 days
D. No treatment needed – stop antibiotics
Case #1 Summary

Antibiotics generally NOT recommended:

- Enteroaggregative E. coli (EAEC)
- Enterotoxigenic E. coli (ETEC)
- Enteroinvasive E. coli (EIEC)
- Shiga toxin-producing E. coli (STEC)

When to consider antibiotics (except for STEC):

- Severe (fever, > 6 stools/day, admitted for dehydration)
- Prolonged (> 7 days)
  - Azithro 500 daily x3 days, cipro 500 BID x3 days, levo 500 daily x3 days
Case 2 (Bear River ED)
A 30-40 y/o female is seen for flank pain + subjective fever, no documentation of urinary symptoms

• Allergies: sulfa
• Normal labs and vitals
• UA: Nitrite +, Leuk esterase -, WBC 13, epithelial cells 5, Bacteria 4+
• No imaging performed

Diagnosed with uncomplicated pyelonephritis, discharged on nitrofurantoin x7 days
Case 2 (Bear River ED)

ED Callbacks Result:
• Urine culture: E.coli (pan-susceptible)

Which of the following would be reasonable to recommend (Select all that apply):
A. No change needed – finish nitrofurantoin x7 days
B. Change to TMP/SMX x7 days
C. Change to FQ x7 days
D. Change to cephalexin x10 days
Case 2 Summary

Agents recommended for cystitis only:

- Nitrofurantoin
- Fosfomycin

Rationale:

- PK data suggest minimal systemic absorption
  - NFT (100mg): peak < 1 mcg/mL, often undetectable (susceptibility breakpoint ≤ 32)
  - Fos (3g): peak ~26 mcg/mL (susceptibility breakpoint ≤ 64)
- Intermountain data (from ED UTI/ASB project):
  - Pyelo treated with NFT or Fosfomycin led to ~50% readmissions!
References


Case 3 (Logan ED)
A 20-30 y/o female is seen for flank pain, vomiting, urinary urgency/frequency subjective fever

- Allergies: sulfa
- Normal vitals
- WBC 12.5
- UA: Nitrite -, Leuk esterase small, WBC >30, epi cells 2, Bacteria 1+
- CT stone protocol: no abnormalities identified

Diagnosed with uncomplicated pyelonephritis, discharged on cephalexin x10 days
Case 3 (Logan ED)

ED Callbacks Result:

• Urine culture: *Staphylococcus saprophyticus* (>100K CFU/mL)
  - Micro comment: Routine susceptibility testing is not recommended as most isolates are susceptible to common agents used to treat UTI (nitrofurantoin, trimethoprim-sulfamethoxazole, or ciprofloxacin)

Which of the following would be reasonable to recommend (Select all that apply):

A. No change needed – finish cephalexin x10 days
B. Change to TMP/SMX x7 days
C. Change to FQ x7 days
D. Change to linezolid x7 days
Case 3 Summary

Staphylococcus saprophyticus

- Common uropathogen in young women
- A type of Coagulase-negative Staph spp, but generally NOT a contaminant

Clinical pearl:
- Susceptibility testing often NOT performed by micro lab
  - BUT many are methicillin-resistant!! (~70% over past 5 years)
  - Patients prescribed an empiric β-lactam will often need a change in therapy

<table>
<thead>
<tr>
<th>Drug</th>
<th>MIC Interp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linezolid</td>
<td>S</td>
</tr>
<tr>
<td>Nitrofurantoin</td>
<td>S</td>
</tr>
<tr>
<td>Oxacillin</td>
<td>R</td>
</tr>
<tr>
<td>Penicillin</td>
<td>R</td>
</tr>
<tr>
<td>Trimethoprim/Sulfa</td>
<td>S</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>S</td>
</tr>
</tbody>
</table>