Missed Pelvic Inflammatory Disease (PID) Diagnoses and Treatment Detected through Health Department Surveillance in Two Western New York Emergency Departments

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Need for PID Surveillance

Public Health Significance

• Goals of female CT and GC screening include PID prevention

• PID underreported
  – No specific laboratory test or gold standard for diagnosis
  – Reportable as CT/GC complication in NYS
Erie County Enhanced PID Surveillance

• Goal: To estimate burden of PID at busy, urban Emergency Departments (EDs)

• Methods: Developed tool to capture PID cases

• Conducted medical record review for all ED-1 and ED-2 female CT and GC reports
  – ED-1: in 550 bed academic-teaching hospital and regional trauma center
  – ED-2: in 200 bed academic-teaching women’s health and pediatric hospital center with adolescent medicine physicians on staff
Review medical records of all patients diagnosed with CT and/or GC between 1/1/09 - 6/30/09 in two Erie County EDs

**Confirmed PID**

Meets ≥ 1 criteria:
1. Physical exam (PE) and lab findings consistent with PID
2. ED medical record diagnosis of PID
3. Treatment consistent with PID
4. CT/GC Case report included PID

**Suspect PID**

Meets all criteria:
1. Lower abdominal or suprapubic tenderness on PE
   AND
2. No or incomplete pelvic examination documentation
   AND
3. No other medical diagnosis to account for tenderness

**No PID**

- Does not meet criteria of Enhanced PID Surveillance Tool for confirmed or suspect PID
Physical Exam Findings C/W PID*

• Sexually active young women or those at risk of STDs with lower abdominal or pelvic pain and no cause other than PID for illness

• PID Diagnosis with one or more criteria:
  – cervical motion tenderness – OR –
  – uterine tenderness – OR –
  – adnexal tenderness

CDC Recommended PID Treatment*

Outpatient Treatment:

Ceftriaxone 250 mg IM x 1 dose
PLUS
Doxycycline 100 mg PO BID x 14 days
WITH OR WITHOUT
Metronidazole 500 mg PO BID x 14 days


<table>
<thead>
<tr>
<th>STD</th>
<th>ED-1 (n=48)</th>
<th>ED-2 (n=50)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>CT</td>
<td>29</td>
<td>60.4</td>
</tr>
<tr>
<td>GC</td>
<td>14</td>
<td>29.2</td>
</tr>
<tr>
<td>CT and GC</td>
<td>5</td>
<td>10.4</td>
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</tbody>
</table>

• Mean age of *GC and/or CT positive patients*
  • ED-1 = 22.8 yrs
  • ED-2 = 17.4 yrs

• Mean age of *patients with “confirmed PID”*
  • ED-1 = 23 yrs
  • ED-2 = 18 yrs
Erie County Enhanced PID Surveillance Findings

ED-1
n=48

% of Medical Records Reviewed

<table>
<thead>
<tr>
<th>Condition</th>
<th>Reviewed %</th>
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<tbody>
<tr>
<td>Confirmed PID</td>
<td>7</td>
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<tr>
<td>Suspect PID</td>
<td>9</td>
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<tr>
<td>No PID</td>
<td>32</td>
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ED-2
n=50

% of Medical Records Reviewed

<table>
<thead>
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<th>Condition</th>
<th>Reviewed %</th>
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</thead>
<tbody>
<tr>
<td>Confirmed PID</td>
<td>8</td>
</tr>
<tr>
<td>Suspect PID</td>
<td>6</td>
</tr>
<tr>
<td>No PID</td>
<td>36</td>
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</table>
Findings for females seen at ED-1 & ED-2 between 1/1/2009 - 6/30/2009 classified as “confirmed PID” by the Enhanced Surveillance Tool

<table>
<thead>
<tr>
<th>Findings</th>
<th>ED-1 (n=7)</th>
<th></th>
<th>ED-2 (n=8)</th>
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</thead>
<tbody>
<tr>
<td>PID case outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnosed in ED</td>
<td>4</td>
<td>57%</td>
<td>6</td>
<td>75%</td>
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<tr>
<td>PE Findings, no ED PID Dx</td>
<td>3</td>
<td>43%</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>CDC recommended Rx</td>
<td>2</td>
<td>29%</td>
<td>4</td>
<td>50%</td>
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<tr>
<td>Reported to ECDOH</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Limitations

• Dependence on medical provider documentation of treatment and PE findings

• Inability to independently confirm PID due to absence of PID diagnostic gold standard
Conclusions

• Many ED patients with exam findings consistent with PID were not diagnosed with PID and/or not treated properly

• No PID cases diagnosed in ED-1 or ED-2 were reported to the Health Department

• PID diagnosis and management was more accurate in ED with a hospital-based adolescent medicine program
Recommendations

• Development of ED standard for PID diagnosis and treatment has potential to improve care
  
  • Program ED EMRs to prompt PID diagnosis with specific physical exam findings in female patients
  
  • EDs should implement uniform treatment guidelines for PID
  
• Educate ED staff to include PID on CT/GC report
Questions?

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Thank you!