Effects of Antibiotic Stewardship Program to Reduce Use of IV Quinolone in PYNEH

Team Member

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Doctor, No Injection. OK?
Introduction

- IV antibiotics are often thought to be associated with enhanced efficacy when compared to their oral counterparts.
- Many studies have demonstrated that oral quinolone have good bioavailability and equivalent efficacy as compared with their IV formulations.
- A systematic IV to oral switch programme can help to:
  - Reduce hospital drug budget
  - Reduce hidden expenses incurred from IV drug preparation and administration
  - Reduce patient discomfort
  - Promote early ambulatory
  - Potential shortening in hospital stay
**Objective:**
To promote the practice of early switching of IV quinolone to oral route when medically feasible.

**Department:** Medical, Surgical and O&T of PYNEH

**Study Period:** April to December 2011

**Method:**

- **Pharmacist**
  - Draw case list

- **ICN**
  - Data Collection

- **Microbiologist**
  - Discuss if patient fit for switching

- **Check MO compliance**
  - Feedback to Case MO
  - Follow up case 2 more days

- **Continue IV Quinolone**
  - Data Analysis

- **Fit**

- **Not Fit**
  - Still Not Fit

- **Still Not Fit**
  - Continue IV Quinolone

- **Fit**
  - Follow up case 2 more days
  - Feedback to Case MO
Result

- Total IV Quinolone consumption decreased by 48.5% as compared with the same period in 2010.

**Consumption DDD/1000 Patient Bed Day**

<table>
<thead>
<tr>
<th>Dept.</th>
<th>2Q to 4Q 2010</th>
<th>2Q to 4Q 2011</th>
<th>Reduction Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med</td>
<td>9</td>
<td>7</td>
<td>22.2%</td>
</tr>
<tr>
<td>Surg</td>
<td>37</td>
<td>23</td>
<td>37.8%</td>
</tr>
<tr>
<td>O&amp;T</td>
<td>22</td>
<td>5</td>
<td>77.3%</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>35</td>
<td>48.5%</td>
</tr>
</tbody>
</table>

- Saved HK$490,033 for drug cost (65.1% reduction) as compared with the same period in 2010.

- No adverse outcome noted in patients with IV Quinolone to Oral switch.

- Reduced 1593 IV injection procedures.
- Saved 265.5 hours of nurses’ time for injections and monitoring infusions. (Assume average time for preparation, administration is 10 minutes.)
Conclusion

Promote early IV to oral switch therapy for quinolone antibiotics is **feasible** and **cost-effective**.

Appropriate oral antibiotic use produces equivalent clinical outcomes, causes **fewer complications, less patient inconvenience**, and is generally **less costly**.