50.002
Impact of restriction policy as part of an antimicrobial stewardship program in a university hospital of a developing country
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Background: In an era of growing concern about bacterial resistance and hospital costs, limiting the use of broad spectrum antibiotics is important. The purpose of this study is to evaluate the impact of restriction policy as part of an antimicrobial stewardship program.

Methods: The study was conducted in a 140-bed university hospital of a developing country. Tools of the program were development of guidelines of antimicrobial therapy for common community and hospital-acquired infections and education to improve antimicrobial prescription. During the first period of the program we implemented a policy of prior approval for selected antibiotics. Every day pharmacists reviewed prescriptions and the team discussed with prescribing physicians to accomplish with hospital guidelines. After one year of implementation of the program, we stopped the restriction policy and we kept on working with the other tools of the program. To assess if cessation of restriction was associated with an increase in antimicrobial consumption, we measured antibiotic consumption during the first year (period 1) and during one year after we stopped restriction (period 2). Antimicrobial consumption was measured by Defined Daily Dose (DDD) normalized by 1000 bed-days.

Results: During the period 2 antibiotic consumption of ceftriaxone, ceftazidime and vancomycin decreased; it remained unchanged for piperacillin-tazobactam while cefepime, imipenem and colistin increased by 1000 bed-days.

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>DDD per 1000 beddays</th>
<th>Percentage of Increase/Decrease (%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefepime</td>
<td>53,73</td>
<td>80.97</td>
<td>+50.7</td>
</tr>
<tr>
<td>Ceftazidime</td>
<td>17,56</td>
<td>12.57</td>
<td>-28.4</td>
</tr>
<tr>
<td>Ceftriazone</td>
<td>40,00</td>
<td>32.07</td>
<td>-19.8</td>
</tr>
<tr>
<td>Colistin</td>
<td>9,25</td>
<td>19.50</td>
<td>+110.8</td>
</tr>
<tr>
<td>Imipenem</td>
<td>14,11</td>
<td>21.65</td>
<td>+53.4</td>
</tr>
<tr>
<td>Piperacillin-tazobactam</td>
<td>30,36</td>
<td>30,19</td>
<td>0.65</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>44,31</td>
<td>36.98</td>
<td>-16.5</td>
</tr>
</tbody>
</table>

Conclusion: Antibiotic consumption of 4 out of 7 agents did not increased after we stopped restriction policy, while some agents suffered an increased; these agents were those mainly prescribed in intensive care unit associated to an increase in isolation of multidrug resistant Acinetobacter sp. Programs aimed to improve antibiotic prescription accompanied by measurement of antibiotic consumption may help to focus the program in some particular agents and areas of the hospital, and also to reinforce other infection control measures.

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50.003
Utilization of activated protein C (Xigris) in a large teaching hospital- Possible overuse and complications
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Background: The role of drotrecogin alpha (Xigris) in the treatment of septic shock remains controversial. The recent literature suggests there is little or no benefit, and definite risk, for patients whose APACHE II scores are less than 25. A 2007 Cochrane analysis stated that the benefit of Xigris in patients with higher APACHE II scores was supported only by "very weak evidence". We reviewed our institutional experience with this agent.

Methods: Retrospective evaluation of the records of 73 patients receiving Xigris at an 808-bed teaching hospital from April 2003 to June 2008. APACHE II scores, demographic data, clinical outcomes, 28-day mortality, and incidence of bleeding complications were assessed.

Results: Forty-five of 73 (61%) patients had an APACHE II score ≥25. The overall incidence of bleeding was 18 of 73 (25%); in 8 cases, severe or life-threatening bleeding occurred. Six of 18 (33%) patients with bleeding during the infusion had APACHE II scores < 25, with 4 of those 6 cases described as severe. The 28-day mortality among all patients was 25 of 73 (34%), with 19 of 25 (76%) having APACHE II scores ≥25 and 6 of 25 (24%) having APACHE II scores < 25. Relative to the APACHE II scores, the 28-day mortality was 19 of 45 (42%) among patients with an APACHE II score ≥25 and 6 of 28 (21%) among patients with an APACHE II score < 25.

Conclusion: Thirty-nine percent of patients receiving Xigris had APACHE II scores less than 25; its value in these patients is unproven. The incidence of bleeding during infusion of this drug is significant and is associated with higher APACHE II scores, but severe bleeding occurred even among those with lower APACHE II values, who were less likely to derive any benefit from its use. Xigris may be significantly over utilized, and its use is not without risk.

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50.004
Antimicrobial prophylaxis for transrectal ultrasound guided biopsy of prostate: a comparative study between single dose of Gentamicin vs. Ofloxacin
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Background: Prostate cancer is the most common malignancy in men, and has been increasing in incidence in the Western world. The gold standard for diagnosing prostate cancer is a transrectal US-guided biopsy. One of the complications of this procedure is the development of urinary tract infections. It has been shown that treatment with prophylactic antibiotics prior to the procedure reduces the rate
of infections. The widespread use of quinolones for this and other reasons has led to an increase in resistant bacteria. Aims of this study: to evaluate the efficacy of single-dose gentamicin in comparison with single dose of ofloxacin in patients underwent transrectal ultrasound guided biopsy of prostate.

Methods: 109 patients undergoing a prostate biopsy were randomly assigned to two groups: the first group was treated with a single dose of ofloxacin (400 mg) prior to the biopsy and the second with a single dose of gentamicin (3 mg/kg). Clinical signs and symptoms, and urine tests and cultures were followed 2 and 7 days after procedure.

Results: 57 patients received Ofloxacin and 52 Gentamicin. 3 patients in the Ofloxacin group (5.2%) and 4 in the gentamicin group (7.6%) developed urinary tract infections (N.S). No differences were seen in the clinical outcome between the groups.

Conclusion: The development of quinolone resistant bacteria has led us to examine alternative options for prophylactic treatment before prostate biopsies. Gentamicin, was as efficient as quinolones in the prevention of urinary tract infections. A single dose prior to the procedure is sufficient and longer treatment duration is unnecessary.

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50.005
Reducing inappropriate antibiotic usage and costs in an academic Hematology-Oncology unit via antimicrobial stewardship
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Background: Rising consumption of broad spectrum antimicrobials and increasing prevalence of resistant pathogens have raised concerns about antimicrobial use in recent years. Antimicrobial stewardship programs have been reported to improve patient and institutional outcomes while potentially reducing cost and resistance rates. In the light of these findings, an antimicrobial stewardship program (ASP) was initiated in a tertiary care hospital in Singapore.

Methods: The program was initiated in July 2009 and piloted in the haematology-oncology department. A prospective audit and feedback mechanism was employed for review of patients on selected broad spectrum antimicrobials. Appropriateness for use was assessed based on indication of therapy, dose of antimicrobials used, and duration of therapy. Recommendations were made by Infectious disease physicians to the primary team in writing. Appropriateness of use, recommendations made, patient savings and clinical outcomes were analyzed for a period of four months after initiation of the program.

Results: A total of 462 cases were reviewed of which 64% of them were appropriate. The most commonly prescribed antimicrobials were piperacillin/tazobactam, ceftazidime and imipenem, making up 19%, 16% and 15% of the cases audited respectively. Among the recommendations made, de-escalation and discontinuation of antimicrobials were the most common, each making up 27% of the recommendations. This was followed by recommendations for IV-to-PO switch and advice on treatment duration, which made up 11% of the recommendations each. The overall acceptance rate of the recommendations was 89%. An estimate of the potential patient savings due to the accepted recommendations came up to $24,590 over the four months period. There was no significant negative impact on clinical outcomes following the recommendations.

Conclusion: ASP has demonstrated its impact in reducing unnecessary use of broad spectrum antimicrobials and cost to patients. Extension of the program is likely to reduce selection pressure for drug-resistant pathogens in the institution and decrease antimicrobial expenditure.

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50.006
Tigecycline usage in osteomielitis caused by multidrug-resistant acinetobacter: A report of 10 cases from a single institution
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Background: Acinetobacter infectious has been identified in soldiers who participated in wars as Korean, Vietnam and Middle Orient, by now the therapeutics options are limited for this type of multidrug resistant microorganism, we know that the use is not approved for de treatment a bone infectious, so we found necessary to evaluate the efficacy of tigecycline in the treatment of this entity.

Methods: We identified 10 patients with chronic osteomielitis during 2007-2008, this study of cases is prospective, descriptive analytical, we use the microbiological method of Kirby-Bauer and the criteria of inclusion were patients with clinical diagnosis, microbiology isolation, imaging and bone biopsy. Exclusion criteria: immunocompromised and pregnant woman.

Results: 10 patients completed the study; the 88% were males, age 19 to 72 years, mean 39 years. The more common location were: hip, femur, tibia, sacrum and calcaneus. The risk factors identified were: open fracture, vascular compromise, prolong use of antibiotic, long stay and reinterventions. Positive cultures for A. baumannii 100%. They received different regimens of antibiotics without success, at this time we began with tigecycline IV 100 mg the first day and then 50 mg IV q 12hs for 6-7 weeks, all the patients included a combined surgical and medical management.

Conclusion: 90% showed clinical improvement, and the importance of this study is that tigecycline may be a therapeutic option for chronic osteomyelitis resistant Acinetobacter sp, under which treatment options are very limited.

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