

North West Anglia
NHS Foundation Trust

Title: The beneficial effect of educational interventions on antimicrobial use in a time of shortage.

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Abstract

Background

In March 2017 there was a worldwide shortage of Piperacillin-Tazobactam due to an explosion in a Chinese pharmaceutical factory. At Hinchingbrooke Hospital (UK) interim guidelines were published with recommended alternative antibiotics. Additionally Piperacillin-Tazobactam stocks were removed from wards excluding accident and emergency, intensive care, the cancer centre and the acute medical unit. Therefore if still deemed necessary by clinicians despite the recommended alternatives, the policy stated that Piperacillin-Tazobactam required senior microbiological approval.

Objectives

To determine the level of compliance with interim guidelines both before and after simple interventions.

Methods

We conducted a closed loop audit to investigate the use of Piperacillin-Tazobactam and compliance with interim guidelines. The three outcomes measured were as follows:

1) Correct compliance with interim guidelines.

2) Number of patients switched from Piperacillin-Tazobactam within 24 hours.

3) Number of patients remaining on Piperacillin-Tazobactam with microbiology approval.

Our intervention took place over one month, printed copies of interim guidelines were distributed and clinicians were reminded of the Piperacillin-Tazobactam shortage at teaching sessions. We measured practice before and after our intervention.

Data was analysed using Chi squared for the first two outcomes and Fisher's exact for the third.

Results

71 patients were included in the initial audit cycle and 104 in the second. There was a significant improvement in appropriate use of interim guidelines pre- vs. post-intervention: 62% vs. 86% ($p<0.05$). There was no significant reduction in the number of patients prescribed Piperacillin-Tazobactam without approval or the number changed from Piperacillin-Tazobactam within 24-hours, however the trend showed improvement.

Conclusions

Our results suggest educational interventions improve prescribing practice and have a positive impact on antimicrobial stewardship. However there was no reduction in absolute numbers of patients prescribed Piperacillin-Tazobactam without approval, suggesting physicians still choose Piperacillin-Tazobactam for their sickest patients despite the shortage.

Biography

I have completed my medical degree at Bristol University. I completed my foundation year one training at Hinchingbrooke Hospital and am in the process of completing my second year in Papworth Hospital. I take an active interest in antimicrobial stewardship by attending hospital committee meetings and involving myself in public awareness events.

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