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AN AUDIT TO ASSESS THE SUITABILITY OF PATIENTS AT A TERTIARY/QUATERNARY PAEDIATRIC HOSPITAL TO SWITCH FROM INTRAVENOUS (IV) TO ORAL (PO) ANTIMICROBIAL THERAPY

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Introduction, Aims and Objectives In 2011 the Start Smart then Focus campaign was launched by Public Health England (PHE) to combat antimicrobial resistance.¹ The 'focus' element refers to the antimicrobial review at 48–72 hours, when a decision and documentation regarding infection management should be made. [OM1] At this tertiary/quaternary paediatric hospital we treat, immunocompromised, high risk patients. In a recent audit it was identified that 80% of antimicrobial use is IV, this may be due to several factors including good central access, centrally prepared IV therapy and oral agents being challenging to administer to children. The aim of the audit was to assess if patient have a blood culture prior to starting therapy, have a senior review at 48–72 hours, and thirdly if our high proportion of intravenous antimicrobial use is justified.

Method Electronic prescribing data from JAC was collected retrospectively over an 8 day period. IV antimicrobials for which there is a suitable oral alternative, this was defined as >80% bioavailability, were included. Patients were excluded in the ICU, cancer and transplant setting, those with absorption issues and with a high risk infection, such as endocarditis or bacteraemia. Patient were assessed against a set criteria to determine if they were eligible to switch from IV to PO therapy; afebrile, stable blood pressure, heart rate <90/min, respiratory rate < 20/min for 24 hours. Reducing CRP, reducing white cell count, blood cultures negative or sensitive to an antibiotic that can be given orally.

Results

- 100% of patients (11) had a blood cultures taken within 72 hours of starting therapy
- 55% of patients had a positive blood culture
- 82% of patients had a senior review at 48–72 hours
- 46% of patients were eligible to switch from IV to PO therapy at 72 hours
- 33% of eligible patients were switched from IV to PO therapy at 72 hours

Conclusion and Recommendations This audit had a low sample size due to the complexity of the inclusion and exclusion criteria, and the difficulty in reviewing patient parameters on many different hospital interfaces. It is known that each patient is reviewed at least 24 hourly on most wards and therefore there is a need for improved documentation of prescribing decisions. Implementation of an IV to oral switch guideline is recommended to support prescribing decisions and educate and reassure clinicians on the bioavailability and benefits of PO antimicrobial therapy where appropriate. Having recently changed electronic patient management systems strategies to explore include hard stops on IV antimicrobial therapies, however this will require much consideration. Education of pharmacist and nurses is required to raise awareness about antimicrobial resistance and the benefits of IV to PO switches, despite the ease of this therapy at out Trust. This will promote a culture in which all healthcare professionals are active antimicrobial guardians, leading to better patient outcomes, less service pressures, and long term financial benefit.

REFERENCE

1. GOV.UK. 2019. Antimicrobial stewardship: Start smart - then focus. [ONLINE] Available at: <https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus> [Accessed 3 July 2019]

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ANTIMICROBIAL PRESCRIBING POINT PREVALENCE STUDY AT A PAEDIATRIC TERTIARY/QUATERNARY CENTRE

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Aims Increasing antibiotic resistant organisms combined with frequent, inappropriate use of antibiotics is giving rise to infections which may no longer be able to be treated¹. The aim of this prevalence study was to audit antimicrobial prescribing at a Hospital against Trust antimicrobial policies to determine whether the rising trend in antimicrobial prescribing is appropriate.

Methods The data was collected in a point prevalence manner; prescriptions that were active at the time of auditing were included and those which were discontinued or prescribed and not yet administered were excluded. A data collection template was designed and distributed to ward pharmacists with education on how to complete. The following parameters were audited; allergy status, antibiotic name, route, indication, duration, review date as well as the ward and speciality. Ward pharmacists assessed whether the prescription was in line with Trust guidelines/ID/Micro recommendations. Data was collected into a central database, as well time taken to audit.

The audit standards were

1. 90% of patients prescribed an antimicrobial for an indication in line with Trust policy or ID/Micro
2. 90% of patients prescribed an antimicrobial for a duration in line with Trust policy or ID/Micro
3. 90% of patients have an allergy status documented

Results 272 inpatient charts were reviewed. 153 of these patients (56%) were prescribed an antimicrobial. 398 antibiotic prescriptions were included for audit. 38% of prescriptions were for medical/surgical prophylaxis. Prophylactic prescriptions were not included for further analysis. 85% of prescriptions had an indication documented either on the electronic chart (JAC) or written in the paper medical notes. 98% of prescriptions were as per policy or in line with recommendations from ID/Micro. 61% of prescriptions had a review date documented. 100% of patients had an allergy status documented. Average duration of antibiotic prescription was 8 days, range 1–50 days, median 5. 80% of prescriptions were IV. 70% of antimicrobial prescribing takes place in the ICU/cancer/transplant setting. Respiratory tract infections were the most common indication for antimicrobial prescribing, 35%. Amikacin was the most commonly prescribed antibiotic (15%), followed by piperacillin/tazobactam (14%). The audit cost in terms of pharmacist time was £763, at a total of 33 hours.

Conclusions Policy compliant prescribing was very high at 98%; this figure is surprisingly high and poses questions as to the accuracy of data collection and whether bias was present. As a Trust we are now interested and will focus on improving intravenous to oral switches and reviewing