Method A prospective, modified single-day point prevalence study of antifungal use over 12 consecutive weeks (July 2020 and October 2020) was conducted. This data was collected as part of a submission to a European-wide study across 23 paediatric/neonatal sites. All inpatients <18 years present at 0800hours. on the day of survey who were receiving systemic antifungal agents were included. Patient data was recorded, anonymised and entered into a study-specific online portal in adherence to general data protection regulation requirements. Each patient was followed-up weekly and the outcome of each prescribing episode was recorded. Study approval was granted by the hospital's research ethics committee.

Results 38 patients were included in the study; 60% male (n= 23), 40% female (n=15). During the 12 weeks, the overall rate of antifungal use was 6.7%. The main underlying condition recorded was cancer (63%, n= 24), 5 of which were post bone marrow transplant.

A total of 56 antifungal prescriptions were recorded; 64.3% (n= 36) recorded as prophylaxis and 35.7% (n=20) as treatment. Liposomal amphotericin B accounted for 41% of prescriptions, comprised of: fluconazole 28.6%, voriconazole 14.3%, posaconazole 8.9%, and caspofungin and itraconazole 3.6%. At the end of the study period, 86.7% of the prescriptions were ongoing for either prophylaxis or completion of treatment.

Discussion This is the first Irish paediatric study of antifungal prescribing pattern in tertiary care; the overall rate of antifungal prescribing is consistent with previously reported European data.[1] The main indication for use was prophylaxis, targeted appropriately at immunocompromised patients.[2] Liposomal amphotericin B is the most frequently prescribed antifungal and contributes substantially to the overall annual antifungal spend. The following limitations should be noted: although part of a wider European study, these data reflect antifungal use in a single site; data was collected during the COVID-19 pandemic which may have impacted inpatient numbers.

Conclusion Antifungal prescribing was appropriately focused on high-risk paediatric patients and was consistent with current local guidelines and aligned with European practice. Consideration should be given to substitution of liposomal amphotericin B with more cost-effective antifungals as clinically appropriate, offering significant cost savings. A formal AFS programme offers significant benefit both clinically and financially to the patients and institution, particularly in the empiric use of liposomal amphotericin B. It is anticipated that a AFS programme will be established in 2021.

REFERENCES

1. Lestner JM, Versporten A, Doerholt K, Warris A, Roilides E, Sharland M, Bielicki J, Goossens H, ARPEC Project Group. Systemic antifungal prescribing in neonates and children: outcomes from the antibiotic resistance and prescribing in European children (ARPEC) study. *Antimicrob Agents Chemother* 2015;**59**:782–789.
2. Santiago-García B, Rincón-López EM, Ponce Salas B, *et al*. Effect of an intervention to improve the prescription of antifungals in pediatric hematology-oncology. *Pediatr Blood Cancer* 2020;**67**(4):e27963.

P34 MEDICINES OPTIMISATION FOR INFANTS AND CHILDREN ATTENDING A CHILDREN'S CARDIOLOGY WARD FOR DAY CASE DIAGNOSTIC CARDIAC CATHETER PROCEDURES

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Introduction Infants and children with congenital heart defects are reliant on medicines to treat the symptoms of heart failure whilst they wait for corrective or palliative surgery. Medicines optimisation for this group of patients is a complex and challenging concept. This is because there are many factors that need to be considered to ensure the effective and safe use of these medicines.

Infants and children undergo significant physiological and pharmacological changes over a relatively short period of time.[1] In addition, this group of patients also present challenges for the safe administration of these medicines at home.[2] Failure to optimise these medicines may result in reduced symptom control with negative effects on health outcomes for the family and child.

The aim of this service evaluation was to identify whether patients attending for day case diagnostic catheter procedures on the children's cardiology ward could benefit from having their medicines optimised during their hospital visit.

Method Data was collected prospectively over a period of 7 months from August 2019 to March 2020. Patients were included if they attended the children's cardiology ward for a day case diagnostic cardiac catheter during the study period. In addition, they needed to be taking at least one long-term medicine at home.

A pharmacist with experience in children's medicines conducted a medication review with the family during their attendance. This included a consultation about which medicines were being taken at home, and listening to the experience that the family had from using their medicines. Medicines were then reviewed using up to date information such as weight, test results and medicines information resources. Anonymous data was kept using a Microsoft Excel® spreadsheet.

Results In total, 175 patients were assessed for inclusion during the study period. 57 families were found to be administering a long-term medicine at home and had their medicines reviewed. Subsequently, 13 patients had their medicines optimised.

The most common recommendation was to increase the dose of a medicine for an up to date weight or because of failure to control symptoms (n=11). This was frequently seen with medicines such as aspirin, captopril and diuretics.

In addition, more subtle and unexpected interventions regarding medication safety at home were also identified (n=2). For example, one family were found to be ten times under dosing their child due to an unidentified change in strength of liquid medication from primary care. Another family described their difficulty with crushing and dispersing tablets to administer using a nasogastric tube. This resulted in a block tube that required an additional hospital visit to have a new tube inserted. Additional action was taken to report and rectify these medication errors.

Conclusion This project has demonstrated the value that can be gained from a pharmacist providing ongoing reviews of medicines used by families when they attend a children's cardiology centre. Day case admissions in a specialist hospital may be seen as low priority to professionals. However, this is an ideal opportunity to provide support to families who use medicines at home.

REFERENCES

1. Kearns GL, Abdel-Rahman SM, Alander SW, *et al*. Developmental pharmacology–drug disposition, action, and therapy in infants and children. *New England Journal of Medicine* 2003;**349**:1157-1167.

2. NHS England and NHS Improvement. The NHS patient safety strategy. Safer culture, safer systems, safer patients. 2019. [Cited: 14th August 2021]. Available at: https://www.england.nhs.uk/patient-safety/the-nhs-patient-safety-strategy/

P35 AN EVALUATION OF CLOPIDOGREL USE IN A CHILDREN'S CARDIOLOGY CENTRE

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Introduction Clopidogrel is a medicine that prevents platelet adhesion and is therefore used to reduce the risk of blood clots. In children's cardiology, clopidogrel is usually added in combination with aspirin for patients who have had operations and procedures that carry a higher risk of thrombosis.

In children, there are two major studies that assessed the use of clopidogrel to inhibit platelet aggregation and reduce blood clots; PICOLO[1] and CLARINET.[2] PICOLO showed that a dose of 0.2mg/kg once a day is effective at inhibiting platelet aggregation. CLARINET showed aspirin and clopidogrel had no significant benefit over aspirin monotherapy at preventing blood clots. However, this was in a very specific cohort of patient with complex heart disease. Due to the significant morbidity and mortality associated with blood clots and lack of suitable alternatives, clopidogrel is still used within children's cardiology for patients who have multiple risk factors for blood clots from platelet adhesion.

The aim of this audit was to establish the nature of prescribing of clopidogrel within our specialist centre compared to the published data.

Method We collected data retrospectively using the pharmacy dispensing system JAC® to identify patients who had received clopidogrel over a two year period from July 2019 to June 2021. Patients were then included if they continued clopidogrel at discharge. Patient characteristics such as weight, indication, dose and administration instructions were gathered from our electronic patient record and made anonymous prior to anaylsis using Microsoft Excel®.

Results We identified 8 patients who had been prescribed clopidogrel over the 2 year period. The median average age at the start of treatment was 5.4 years (range 1.1 to 10.7 years), the median average weight was 21.4kg (range 11.7 to 41.6kg) and the median average dose was 0.71mg/kg (range 0.23 to 1.8mg/kg). The indications included shunts (n=3), devices/stents (n=4) and aspirin allergy (n=1). A review of administration instructions for families at hospital discharge found three inappropriate manipulations. This was due to the use of tablets to provide a small dose that was deemed to carry a risk of inconsistent dosing and difficulty for families to administer.

Conclusion This project has shown that the use of clopidogrel in our centre was variable and in a non-standard fashion. This is demonstrated by the wide range of doses prescribed and the methods used to administer them. This is likely due to the lack of evidence to guide prescribing in unusual circumstances. As a result, we have written guidance based on this review to encourage safer prescribing, particularly to avoid unsafe and unnecessary manipulation of formulations to give small doses. We also now have an unlicensed liquid available for infants who require small doses. For older children, prescribing of fractions of a tablet (e.g. 18.75mg, 37.5mg) is encouraged.

REFERENCES

1. Li JS, Yow E, Berezny KY, *et al*. Dosing of clopidogrel for platelet inhibition in infants and young children: primary results of the platelet Inhibition in children on clopidogrel trial. *Circulation* 2008;**117**:553-559.
2. Wessel DL, Berger F, Li JS, *et al*. Clopidogrel in infants with systemic-to-pulmonary-artery shunts. *New England Journal of Medicine* 2013;**368**:2377-2384.

P36 MEDICATIONS GIVEN VIA ENTERAL FEEDING TUBES TO PAEDIATRIC INPATIENTS

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Aim Approximately 17,000 children in the UK require nutritional support via enteral feeding tubes,[1] many of whom administer medicines via this route. Availability of medications in an appropriate formulation to ensure safe and effective administration via enteral tubes is limited. European Medicines Agency guidance states that companies should include information in the summary of product characteristics (SmPC) if administration through an enteral tube is very likely.[2]

This project aimed to determine if medications prescribed and administered to paediatric inpatients via enteral tubes were licensed for this route of administration and whether manipulation of the product outside of its product license was required in order to administer via an enteral tube.

Method Data was collected in a specialist children's hospital on January 6th 2021. Eligible patients were identified from their electronic patient records and by speaking to the nurse responsible for their care. The medicine and brand used was recorded on Microsoft Excel. The SmPC of each product was reviewed to determine whether it was licensed for children and for administration via enteral tubes. Patients on critical care and oncology wards were excluded due to time constraints. The audit was registered with the hospital's clinical audit department. Ethical approval was not required.

Results There were 104 inpatients on the wards included on the day of the audit, 23 of whom (22%) were receiving medication via an enteral feeding tube. A total of 172 medicines were prescribed and administered via enteral tubes to these patients including 72 different medicinal products. Four (5.5%) of the 72 medicines were licensed for administration via this route. Seventeen medicines (24%) were unlicensed products, 8 (11%) of the licensed products were not licensed for children under 12 years of age and 19 (26%) had an age restriction to the license. Twenty eight (39%) were licensed for children of any age. Forty seven (27%) of the 172 medication administrations required manipulation of the medicine before being administered via an enteral tube (29 liquids further diluted (16.7%); 9 capsules opened (5.2%); 8 tablets dispersed in water and a proportion given (4.6%); 1 tablet crushed (0.5%).

Conclusion This audit has identified that very few medicines administered to paediatric inpatients via enteral tubes are licensed for this route. Over half of medicines administered via this route are either unlicensed products or not licensed for use in children. Manipulation of medicines prior to administration to children via enteral tubes is regularly required. The lack of age appropriate medicines licensed for use via enteral tubes in children should be highlighted to the pharmaceutical industry and regulators