AN EVALUATION OF CLOPIDOGREL USE IN A CHILDREN’S CARDIOLOGY CENTRE

Stephen Morris*, Teresa Brooks. Leeds Teaching Hospitals NHS Trust

Introducion 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; PICOLO1 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 analysis 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. These 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

MEDIICATIONS GIVEN VIA ENTERAL FEEDING TUBES TO PAEDIATRIC INPATIENTS

Andrea Gill*, Abigayle Bembridge. Alder Hey Children’s NHS Foundation Trust

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 medications 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.
REFERENCES


P37 ADMINISTERING MEDICINES SAFELY AT HOME: USING AN EVIDENCE BASED APPROACH TO HELP A FAMILY WITH COMPLEX HEALTH NEEDS

Stephen Morris*, Teresa Brooks. Leeds Teaching Hospital NHS Trust

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Introduction Helping families to use medicines safely at home is a huge problem for both patients and professionals. Families who are unable to use medicines safely will experience poor health outcomes and require repeated health service visits.

This case involves a family who were resident in the UK under refugee status. Their child was admitted to our hospital for an operation to treat their complex congenital heart disease. At discharge the child was prescribed five medicines, and three of them needed to be manipulated in order to give the necessary dose. Both parents were present but unable to communicate using the English language.

The aim of this project was to describe how an innovative evidence based approach can ensure that when a family with complex needs goes home from hospital, they are able to continue to use medicines safely and effectively.

Method We structured our approach in two stages according to the principles of Medicines Optimisation.

The first stage would ensure we understood the patient experience as best we could. This would allow us to build a relationship between ourselves (the professionals) and the family. This was guided by qualitative studies that describe the experience of families caring for sick children and the importance of building relationships between professionals and families.

The second stage would use quantitative evidence to provide effective interventions that would support them to use medicines at home. These included providing a personalised pictogram of how to administer their medicines, and finally using simulation of medicines administration to check their understanding.

Results The first stage involved a pharmacist and a specialist nurse meeting the family using a telephone interpreter. We found that there were significant problems for this family that needed addressing. For example, they had no immediate family to support them, had poor literacy and lack of understanding of the English language. Subsequently, another meeting with the family was arranged using a face to face translator, a doctor, a nurse and a pharmacist. This meeting allowed a more comprehensive discussion about their child, their medical needs and their medicines.

The second stage involved training the family to administer their medicines. A pharmacist and a specialist nurse used a telephone translator with parents. The medicines were dispensed to the ward and a pictogram was created which used pictures and icons. A medicines administration simulation was conducted to support the family to use their medicines.

Following this training, the parents were pleased with the support and were able to demonstrate they understood how to give their child’s medicines as instructed. The family went home and were followed up by our specialist cardiology team.

Conclusion This case highlight some of the many challenges that professionals and families face with supporting families to use medicines at home. Despite the significant risks involved, using a personalised and collaborative approach between families and professional can have successful outcomes.

P38 AN AUDIT OF EXCIPIENTS OF ONE MANUFACTURER’S UNLICENSED LIQUID PREPARATIONS IN A TERTIARY PAEDIATRIC HOSPITAL

MM Worrall*, AM Fitzpatrick, J Fanning. Children’s Health Ireland at Crumlin

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Background Many unlicensed medicinal products routinely used to treat the paediatric population do not undergo the same rigorous assessment that adult preparations do prior to coming to market. This means that many preparations are not authorised for paediatric use and consequently there is widespread use of unlicensed medicines and ‘off-label’ use of licensed medicines. Evaluation of excipients in unlicensed medicines is an integral part of assessing their suitability for use in paediatric patients. Excipients of concern include (but are not limited to) propylene glycol, ethanol, hydroxybenzoates, artificial sweeteners. Medicines are carefully selected for use based on agreed criteria. The assessment tool used in this centre is the ‘New Products Assessment Form’ and helps the assessor identify potential issues with excipients.

Aim This review aimed to reassess excipients in one manufacturer’s portfolio of unlicensed liquid preparations, stocked and regularly used at this centre. An informed decision could then be made to switch to a more suitable alternative if necessary.

Method A list of the manufacturer’s unlicensed liquid preparations was compiled, 14 in total. The company was contacted and requested to provide a comprehensive list of excipients. A New Products Assessment Form was completed for each product, which identified potential issues with excipients, in line with European Medicines Agency (EMA) guidelines. A list of all preparations where excipients exceeded acceptable daily intake (ADI) was made. Based on dosing regimes and weight/age the ADI of each excipient was calculated and documented. Where a preparation exceeded ADI for a particular excipient the manufacturing