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ALFENTANIL FOR ANALGESIA AND SEDATION IN CHILDREN'S CRITICAL CAREStephen Morris*, Teresa Brooks. *Leeds Teaching Hospitals NHS Trust*

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Introduction Safe and effective sedation and analgesia in children's critical care is a complex area of medicines use. Analgesia and sedation are needed to treat any pain during a critical care stay, and also to facilitate the delivery of invasive interventions such as mechanical ventilation and intravenous access devices.

Strong opioids are a group of medicines often used to achieve good sedation and pain relief. In adult critical care, alfentanil has become the opioid of choice as it reduces the length of stay.^{1 2} This could be attributed to the pharmacokinetic profile of alfentanil. Alfentanil does not distribute widely into body tissue like fentanyl, and is not dependent on kidney function to be removed from the body like morphine or oxycodone.³ Most children's critical care units in the UK use either morphine or fentanyl.⁴ The aim of this case report is to describe the use of alfentanil in a complex patient and assess the outcome.

Situation The patient was a 2-month-old (weight = 2.6kg) who had a truncus arteriosus repair at nine weeks of age. The initial postoperative course was complicated by high pulmonary pressures and heart failure that required a further operation. Following this the patient had cardiovascular instability and needed four days of extracorporeal membrane oxygenation (ECMO) support. The clinical team felt that adequate sedation was essential to keeping the patient's blood pressure under control, and to avoid exacerbating heart failure that may have required another period of ECMO support. Sedation had already been titrated using a fentanyl infusion at 7 microgram/kg/hour, clonidine infusion at 2 microgram/kg/hour and chloral hydrate rectal 200 mg/kg/day in divided doses. Midazolam is not used after cardiac surgery at this unit due to concerns about cardiovascular side effects. Unfortunately, the patient was not on enteral feeds and so sedation could not be given via this route. The patient had reduced urine output and the creatinine trend showed an acute kidney injury. The patient's oxygen saturations dropped when they became agitated during routine cares and procedures. As fentanyl was not deemed to be working this was stopped and alfentanil started at 30 microgram/kg/hour. The dose was quickly escalated to the maximum recommended of 120 microgram/kg/hour. Unfortunately, little improvement was seen, and ultimately a ketamine infusion was started which proved to be effective. Eventually, enteral feeding was established, and the addition of promethazine helped sedation and the alfentanil was converted to morphine.

Lesson Learned This case showed that there was little benefit from substituting fentanyl for alfentanil in a complex patient during a prolonged hospital admission. If fentanyl is to demonstrate the benefits seen in adult critical care, then it should be studied during the early critical care period. There are many unanswered questions about sedation in children's critical care. These include whether any medicines are more effective than others, how to escalate sedation in difficult to manage patients, and whether there is any benefit to cycling sedative agents.

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MPharm UNDERGRADUATE KNOWLEDGE, UNDERSTANDING AND PERCEPTIONS OF COVERT ADMINISTRATION OF MEDICINES IN CHILDRENKamonlak Chaywan, Anna Durkin, Chi Huynh*, Michael Coleman. *Aston Pharmacy School, Aston University*

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Introduction Covert medication administration is an ongoing practice that occurs among some patient groups, including geriatric, psychiatric and paediatric populations. The Mental Capacity Act (MCA) 2005 is the current legislation which relates to the practice of covert medication administration and applies to people aged 16 and over.¹ Gillick competence applies to children under the age of 12 and is used to determine whether the child has capacity to give consent to their own medical treatment without parental intervention.² Medication non-adherence issues are common in children, and in some circumstances has resulted in the administration of medicine covertly. The practice of covert medication administration poses ethical, legal and clinical risks. These implications must be considered prior to administration. The research aim was to gain a better understanding on the knowledge and perception of MPharm students at Aston Pharmacy School on covert medication administration in children.

Methods Purposive sampling was used, where MPharm students at Aston Pharmacy School were selected to complete online surveys voluntary and anonymously. A total of 50 participants have completed the survey, where 14% were in stage one, 28% were in stage two, 32% were in stage three and 26% were in stage four of the study (2021–2022 academic year). The results obtained include both qualitative and quantitative data, which was imported into excel. Graphs and charts were used to illustrate the findings. The survey questions cover both legal and ethical perspectives of covert medication administration. This has enabled students' opinions and attitudes towards this topic to be explored. The survey was approved by the Pharmacy Protocol and Ethics Research Board (PERB) and pilot testing were conducted before the survey was distributed to students.

Results and Discussion Similarities between responses are seen between MPharm students across different stages of study. The majority of students have a good understanding on MCA 2005 and Gillick competence with regard to consent and capacity. Students appreciated the importance of the role of pharmacists in covert medication administration. Additionally, it was clearly demonstrated that students have a good understanding of the principle of best interests. Ethical perspectives on the practice of covert medication administration among most students are similar across the different stage of study.