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PERCEPTIONS OF PAEDIATRIC TIVA IN ANAESTHETIC CONSULTANTS AND TRAINEES AT A DISTRICT GENERAL HOSPITAL

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Introduction:

Total intravenous anaesthesia (TIVA) is reported to reduce post-operative nausea, emergence delirium and airway related critical incidents in children. Despite this it is used in a minority of paediatric anaesthetic cases(1). Meanwhile, a large proportion of paediatric surgical work is carried out at district general hospitals by a mix of general and paediatric anaesthetists. We wanted to investigate current the practice of paediatric TIVA amongst consultant and trainee anaesthetists at a district general hospital and explore potential barriers to its use.

Method:

Consultants and trainees within the trust were sent an electronic questionnaire (google forms) in January 2023. Information collected related to paediatric anaesthetic training, approximate number of anaesthetics undertaken in children per year, confidence in using TIVA in children in different age groups and perceived barriers to use of TIVA in children.

Results:

A total of 34 responses were received comprising 24 consultants, 8 trainees and 1 staff grade. 1 did not record their grade. Of these 26% do a regular paediatric list and 24% anaesthetise over 50 children per year. 38% reported never using TIVA in children and 26% use it in 1-5% of cases. The most common reasons given for not using TIVA include unfamiliarity (63%), lack of formal training (50%) and unfamiliarity with paediatric TIVA models & bispectral index monitoring (both 36%). Practical barriers raised include high list turnaround time and short surgery time (both 23%). Perceived confidence levels were low. 43% felt either very unconfident or unconfident using TIVA in an under 10-year-old child with this rising to 64% in a child under 5 years.

Discussion:

Volatile anaesthesia remains the default for children at our hospital. Only one anaesthetist uses TIVA in more than 50% of paediatric cases and 38% never use it. There is interest in paediatric TIVA with 76% wishing to use it more. The most common barriers to using it were training related; this differs slightly to surveys of paediatric anaesthetists where practical challenge was the most reported barrier (2). This difference may be due to widespread use of TIVA in adult practice or respondents limited experience of paediatric TIVA. Confidence in using TIVA in children was related to child age and paediatric training. Of those who felt very confident using TIVA in children under 10 years or under 5 years: 83% and 100% respectively had spent over 6 months at a paediatric specialist hospital or completed paediatric anaesthetic fellowships.

Conclusion:

TIVA is still used in a minority of paediatric cases. Respondents' confidence in using TIVA was low, particularly in younger children. Barriers to using TIVA were largely training and experience related. Consideration should be given to whether paediatric TIVA requires formal teaching within general anaesthetic training.

References

1. Gaynor J, Ansermino JM. Paediatric total intravenous anaesthesia. *BJA Educ.* 2016 Nov 1;16(11):369–73.
2. Goh ACN, Bagshaw O, Courtman S. A follow-up survey of total intravenous anesthesia usage in children in the U.K. and Ireland. *Pediatr Anesth.* 2019;29(2):180–5.