[GA2-64] Paediatric sedation for diagnostic and therapeutic procedures by UK non anaesthetists - an alternative to NICE Guidance 112

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BACKGROUND: Demand for sedation in children undergoing diagnostic and therapeutic procedures is increasing [1]. Whilst a number of studies have demonstrated success rates of 99% with intravenous anaesthetic agents [2], demand for such procedures has exceeded that which can be met by anaesthetic services within some hospitals. Anaesthetists are increasingly supported by non anaesthetic specialists working in non operating theatre environments [1]. The ideal pharmacological protocol to facilitate such undertakings is unknown. In the UK, The National Institute for Health and Care Excellence (NICE) has issued guidance for such procedures within the NHS [3]. Our institution operates a protocol that differs from NICE guidance.
OBJECTIVES: To assess compliance with our sedation protocol, success rates, incidence of complications and reasons for failure.
METHODS: Retrospective analysis of records for 99 consecutive paediatric patients undergoing sedation for diagnostic or therapeutic procedures was performed. Our protocol for painless procedures is chloral hydrate 100 mg.kg-1 for ages 6 to 12 months with the addition of oral alimemazine 2 mg.kg-1 over 12 months of age. Chloral hydrate is reduced to 75mg.kg-1 for 1-2 year olds and 50mg.kg-1 for those over 2 years. For painful procedures we administer oral midazolam 0.5mg.kg-1 intravenous midazolam 0.05-0.1 mg.kg-1 and intravenous ketamine 0.25-1 mg.kg-1
RESULTS: 60 painless and 39 painful procedures were analysed. Compliance was 92% and 84% for painless and painful procedures respectively. Deviation from the protocol for painless procedures involved 3 cases of under dosage of chloral hydrate, 1 omission of alimemazine and 1 case of intravenous ketamine use. Deviation for painful procedures involved 6 cases of minor over dosage of intravenous midazolam and ketamine. The success rate was 90% and 100% for painless and painful procedures respectively. The most common reason for failure for painless procedures was the need to move a child during CT or MRI scanning. One child experienced paradoxical effects after sedation. No serious complications occurred in either group. Nausea and vomiting occurred in 8% of those undergoing painful procedures.
CONCLUSION: The success rate and incidence of complications with the use of our protocol would appear acceptable. Higher success rates and lower complication rates have been reported with the use of intravenous anaesthetic agents [2]. Whilst the use of anaesthetic agents by non anaesthetists to provide sedation for children is increasing [1], the use of such agents in our jurisdiction would currently require increased levels of anaesthetic support.

REFERENCES:
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3. Sedation for diagnostic and therapeutic procedures in children and young people. NICE clinical guideline 112. NICE 2010.
