

Paediatric update

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Case 1:

A 4-month-old 6-kg infant is referred for elective bilateral inguinal hernia repair via laparoscopy. Parents ask you about the risks associated with general anaesthesia on neuro-development. Based on the results of the GAS trial,¹ you reassure them saying that a single and short exposure to sevoflurane (less than one hour) is not associated with negative neurocognitive effects. Further results are expected from the Trex study.

You proceed to consent, but parents ask you to describe the complications/risks associated with anaesthesia. You explain that a wide range of complications can occur. They want to know more about the risk of dying. You explain that this risk in healthy children is evaluated at 0.4/100,000. According to the GMC, 'any risk of serious harm, however unlikely it is to occur' should be discussed.² Some lawyers would discuss that a consent taken on the day of a procedure is not valid.

You induce the infant using sevoflurane and, after inserting a cannula, you decide to measure the blood glucose of your patient. Result is 2.5mmol/l. You inject 12ml of glucose 10% and start a glucose 5% in saline infusion to correct this hypoglycaemia.³

You then move to secure the airway. You follow the recently published guidelines.⁴ However, the patient presents a grade 4 view (quite rare in an infant). You proceed with a video laryngoscopy assisted fiberoptic intubation.

You get ready for a caudal block. Although there are no official guidelines, you follow the recent trend advising anaesthetists to use ultrasound guidance to insert their caudal blocks.⁵ You use 2mg/kg of ropivacaine and 1mcg/kg of clonidine for a total volume of 1ml/kg.

The rest of the procedure is uneventful.

Case 2:

A 4-year-old Māori female patient (15kg) is referred for bilateral pelvic osteotomies for developmental dysplasia of the hips. She seems really upset and doesn't engage with you. Family refuses any neuraxial anaesthesia arguing of a risk of meningitis. They seem extremely stressed.

You use the recent pre-operative fasting guidelines in children to limit her discomfort,⁶ and even the Sip Til Send (5ml/kg).⁷

You discuss a premedication with the parents. Unfortunately, the preop nurses ring you as they are unable to administer it. The child is even more upset than when you met her, and you try to disrupt her internal focus.⁸ After a long chat, your first attempt uses oral midazolam (0.3mg/kg) in a juice that she refuses to drink, you suggest buccal midazolam (0.3mg/kg) but unfortunately it is not sufficient. She is however calm enough to tolerate a dexmedetomidine intranasal administration (2-3mcg/kg, max 0.3ml per nostril). You are glad you don't have to use an IM injection (ketamine 2mg/kg and dexmedetomidine 2mcg/kg).

Considering the opposition to an epidural from the family, you decide to use PENG blocks.^{9,10} The blocks provide efficient perioperative pain relief. In children, sonoanatomy and block insertion under general anaesthesia are usually associated with a better success rate.

The rest of the procedure is uneventful.

References:

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