Perioperative pain management in children

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Pain in pediatric patients is still undertreated. This partly referred to limited knowledge as well as insufficient protocols and routines. It is also know that long term pain can be initiated by high pain levels in the postoperative phase, in all ages. The aim is to accomplish, for the individual patient, an acceptable pain condition with as little side effects as possible.

Unacceptable pain levels can be limited by preventing pain before surgery in the preoperative phase and of special interest is to reduce windup (hyperalgesi). Postoperatively analgesics should be administered around the clock. The route of administration also plays an important role to optimize the analgesic effect. For example paracetamol should preferably be given by the intravenous route during the per- and initial postoperative period. Different origins of pain also should be taken into account when choosing the most effective treatment strategy. A multimodal approach is today the preferred mode of treatment plan, although there is limited scientific publications to support this.

As part of a multimodal strategy several analgesic could be used as paracetamol, cox-inhibitors, corticosteroids, local anesthetics, alfa-2 adrenergic receptor agonists (clonidine, dexmedetomidine), ketamine/s-ketamine, opioids/opioid combinations and gabapentin. Codeine should no longer be used in children and the use of tramadol is quite questionable as part of the standard postoperative pain treatment. Adjunctives could furthermore be helpful in more complex pain states. Diazepam is effective in reducing muscle spasm and reduces pain indirectly.

Pain assessment and monitoring of safety parameters (sedation level, respiration rate) and side effects are in addition important in order to achieve an effective and safe treatment. Side effects should be treated if troublesome. Nausea and vomiting from opioids is the most common side-effect and is not only caused by the direct effect on brainstem centers.

References:

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