EP248 MEPIVACAINE DOSING FOR SPINAL ANESTHESIA IN PEDIATRIC ORTHOPEDIC SURGERY: A RETROSPECTIVE CHART REVIEW

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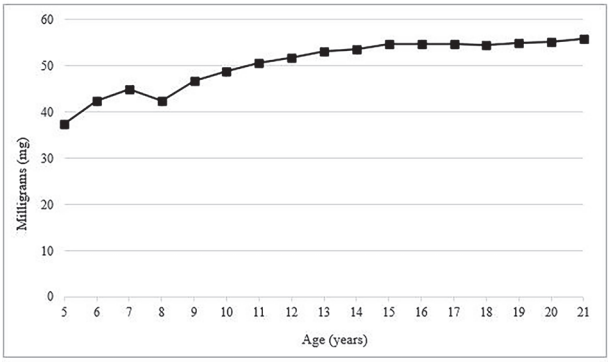
Background and Aims There is substantial literature on the use of spinal anesthesia in pediatric patients with bupivacaine, particularly in infants. Bupivacaine is a long- acting local anesthetic which is well suited to surgery in infants but less ideal for ambulatory surgery procedures in older children. Mepivacaine is an intermediate-acting agent commonly used for spinal anesthesia in adults and has potential benefits for use in older children. Currently, there are no published pediatric dosing guidelines for spinal mepivacaine. At Hospital for Special Surgery, mepivacaine is routinely used for spinal anesthesia in children. The aim of this study is to generate mepivacaine dosing guidelines based on milligrams per kilogram (mg/kg) and age.

Methods We performed a retrospective chart review of children who received mepivacaine for spinal anesthesia between 2016 to 2022.

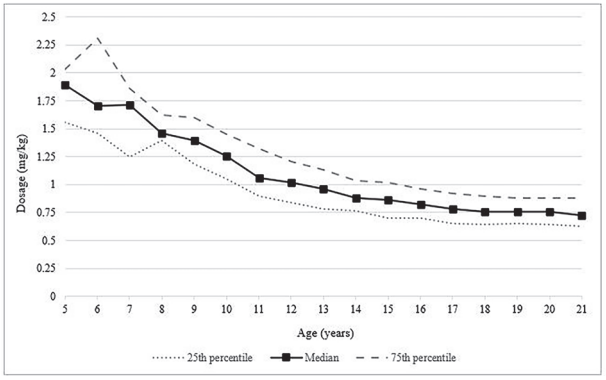
Results The data extraction yielded 5,448 cases. Patient age ranged from 5 to 21 years. Mean surgery duration was 119 minutes (SD=48). Mean PACU length of stay was 222 minutes (SD=95). Weight in kilograms (kg) and mepivacaine dosage in milligrams (mg) was recorded for all patients (figure 1). The range and SD of total milligrams administered by age was also recorded (table 1). Median dosage in mg/kg of mepivacaine was calculated for each age group. Our analysis reveals that required dosage in mg/kg decreases by patient age and begins to plateau at age 15 (figure 2).

Abstract EP248 Table 1 | Range of total milligrams of mepivacaine administered by age

Age (years)	Mean (mg)	SD	Dose range (mg)
5	37.5	5.3	30 – 45
6	42.5	5.9	37.5 – 52.5
7	44.8	4.3	37.5 – 54
8	42.5	2.7	37.5 – 45
9	46.8	5.9	33 – 60
10	48.8	6.5	33 – 63
11	50.6	7.2	30 – 66
12	51.8	6.8	37.5 – 66
13	53.2	6.9	37.5 – 69
14	53.5	7.1	37.5 – 75
15	54.6	6.8	30 – 75
16	54.6	7.3	30 – 75
17	54.7	7.5	30 – 75
18	54.6	7.9	30 – 75
19	54.9	7.2	30 – 75
20	55.3	7.0	30 – 75
21	55.9	6.6	37.5 – 75



Abstract EP248 Figure 1 | Mean total mepivacaine dose administered by age



Abstract EP248 Figure 2 | Mepivacaine dosage in mg/kg reported as a function of patient age

Conclusions We describe mepivacaine dosage as a function of age and weight in children. As age and weight increase, a lower dose of mepivacaine per kg is required for spinal anesthesia.

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EP249 EFFECTIVENESS OF EPIDURALS IN PATIENTS WITH METABOLIC DISORDERS

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Background and Aims This review aims to examine the effectiveness in pain management of epidurals in women with diabetes. Adjustment of dosage of epidurals and other medications will be analyzed to enhance the outcomes in pain relief. Epidural steroid injections are vital to pain management in many labor cases. Diabetes challenges the body's ability to

maintain steady blood sugar levels yet the pain management for parturition is not adapted specifically for this subset.
Methods A combination of systematic literature research in the PubMed database and NCBI database was performed. We compared data regarding metabolic diseases including diabetes and pain management. Consequently, a detailed analysis of the specific impact each pain relief method discussed has on diabetes. A wide range of patient ages were included.
Results The data gathered from the above-mentioned literature describes the efficacy of epidural steroid injections as treatment for pain management in women yet, there are negative side effects related to diabetes and diabetes management. The data gathered from the above-mentioned literature describes the efficacy of epidural steroid injections as treatment for pain management in women yet, there are negative side effects related to diabetes and diabetes management.
Conclusions The studies reflect the efficacy of epidural anesthesia in these patients. The implications of this study could be used to better understand the relationship between epidurals and their effects. More research will be needed to understand the most effective pain management strategy for diabetic OB patients.

EP250 RECTUS SHEATH BLOCK ADDED TO PARASTERNAL BLOCK IMPROVES RESPIRATORY PERFORMANCE AFTER MEDIAN STERNOTOMY WITH DRAINAGE POSITIONING IN CARDIAC SURGERY PATIENTS

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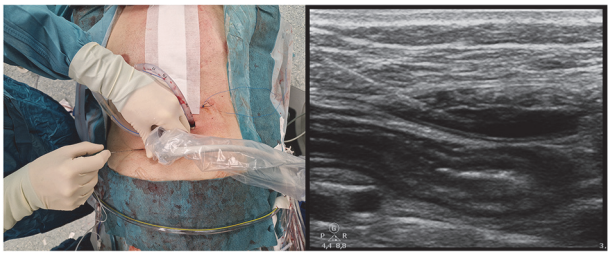
Background and Aims Pain is usually severe after cardiac surgery and can limit respiratory function. Parasternal block is used to control this pain; anyway, the block effect is limited to the sternal region and do not cover upper abdominal quadrants, where pleural and mediastinal drainages are positioned. Rectus sheath block is an analgesic technique widely used in abdominal surgery.
Methods 5 patients underwent CABG through median sternotomy. With patients consent, we performed ultrasound guided bilateral parasternal block (ropivacaine 0,5% 40 ml + dexamethasone 2 mg) after induction and ultrasound guided bilateral rectus sheath block (ropivacaine 0,25% 20ml + dexamethasone 2mg) at the end of the surgery. Multimodal i. v. analgesia: ketorolac 90mg/24h and acetaminophen 1 gr 3/die. Data regarded: perioperative pulmonary performance evaluated with the TriFlo Inspiratory Exerciser® and expressed in balls moved up during inspiration, pain during incentive spirometry at extubation/after 12 hours (0-10 NRS scale), opiates consumption.
Results Patients moved up a median of 2 (2-3) balls before surgery and a median of 2 (1-2) balls at extubation. 2 patients completely recovered respiratory function after 12 hours. Pain during spirometry at extubation was a median of 4 (3,5-5,5). Maximum pain in the first 12 hours was a median of 4 (3,5-5,5). Morphine consumption in the first 12 hours was a mean of 1 + 0,9 mg. No pulmonary complications occurred.



Abstract EP250 Figure 1 Rectus sheath block execution and local anaesthetic spread

Abstract EP250 Figure 2 The TriFlo Inspiratory Exerciser®

EP251 ANESTHETIC MANAGEMENT DURING LABOR AND SUBSEQUENT CESAREAN SECTION OF A PARTURIENT WITH DEVIC DISEASE (NEUROMYELITIS OPTICA): A CASE REPORT

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Background and Aims Devic disease, or neuromyelitis optica, is a rare autoinflammatory demyelinating disease of the central nervous system, characterized by axonal damage, affecting mainly optic nerves and the spinal cord. The anesthetic management of a parturient suffering Devic disease in the delivery room, is presented.
Methods A 43-year-old, 90 kg, 167cm, G2P1 woman, diagnosed with Devic disease, presented for labor induction at 39 weeks of gestation. Initial neurologic symptoms, diplopia and facial nerve palsy, had developed during her first pregnancy and were diagnosed as brain stem syndrome in remission; the parturient received then uneventful epidural labor analgesia. A year later, Devic disease was diagnosed, further confirmed by