

Prospective pain treatment investigation on pediatric patients and discussion on prospective pain treatment efficiency

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AIM

Comparison of pediatric patients' analgesic needs and effects of performed methods and administered drugs by anesthesiologist or relevant departments for prospective pain on pediatric patients.

Demographic Variables	Mean ± std (min-max)
Years old (mean/month)	53.8 ± 42.40 (2-168)
Height (cm)	91.04 ± 26.82 (47-150)
Weight (kg)	18.66 ± 11.25 (3-58)
Gender (M/F)	123 / 42
Operation duration (min.)	58.72 ± 45.18 (15-280)

METHOD

Age, gender, height, weight, co-morbidities, type of surgery, contents of postoperative analgesic, dose of analgesic and duration of the operation of each case were recorded on the follow-up form by the anesthetist who was present in the operation room. Used CHEOPS values according to the patients' age, VAS and verbal pain scale, dosage and duration of additional analgesic, if any needed, were recorded for each case by the nurse in the recovery room and the service nurse after the patients' were discharged to the service department. Patients with all the relevant information available were included in the investigation where patients with missing data and over 14 years old are excluded from the investigation.

RESULTS

56 patients were administered parenteral analgesic who went under surgery with general anesthesia where 109 patients went under surgery with regional anaesthesia. We determined the pain scores, KAH and SpO₂ values of all patients did not change and are similar to each other by looking at the recovery room data for first 15 minutes. As regional anesthesia patients had postoperative data available, the postoperative analgesic activities of these patients are compared according to the drug contents. We determined that during the postoperative period the additional analgesic necessity is lower and analgesic effects are longer in groups where morphine and neostigmine were added to the local anesthetic as adjuvant on intraoperative regional anesthesia applications.

Drugs	n (%)
Paracetamol	50 (%30,3)
Tramadol	4 (%2,42)
Paracetamol+Tramadol	3 (%1,81)
Aldolan	1 (%0,66)
Using drugs only one dose in caudal analgesia	
Bupivacain	45 (%27,27)
Bupivacain+Morfin	29 (%17,57)
Bupivacain+Neostigmin	35 (%21,21)

Table 1: Using drugs in the operation theatre

Variables	Mean±std
Heart rate/	5.min 122.94±29.95
	10.min 123.16±28.11
	15.min 123.15±28.27
SpO ₂	5.min 96.87±2.02
	10.min 97.43±1.74
	15.min 97.61±1.65
CHEOPS	5.min 6.88±2.22
	10.min 7.26±2.23
	15.Min 6.82±2.04
VAS (face)	5.min 4.80±2.16
	10.min 4.55±2.30
	15.min 4.80±2.67
VPS	5.min 1.38±0.68
	10.min 1.52±0.69
	15.min 1.50±0.69

Table 2: Variables in the Postoperative Care Units

Using Pain Scales	n (%)
CHEOPS (1month-4 year)	89 (%53,93)
VAS (face) (4-7 year)	40 (%24,24)
Verbal Pain Scale (VPS) (7-14 year)	36 (%21,81)

Table 3: Using Pain Scales

Demographic variables	Group B (n=45)	Group BM (n=29)	Group BN (n=35)	p
Years (%)	1month-1year 14 (%31,1)	5 (%17,2)	16 (%45,7)	
	1-4 year 20 (%44,4)	9 (%31,0)	9 (%25,7)	
	4-7 year 4 (%8,9)	7 (%24,1)	5 (%15,3)	-
Gender n (%)	7 years and upper 7 (%15,6)	8 (%27,6)	5 (%15,3)	
	Male 43 (%95,6)	24 (%82,8)	27 (%77,1)	
	Female 2 (%4,4)	5 (%17,2)	8 (%22,9)	-
Weight (kg) (25-75)	13 (8-18)	15 (11-24)	13 (8-20)	0,145
Height (cm) mean±sd	83,75±24,785	101,31±25,649	87,69±25,226	0,014
Operation duration (min)	40 (20-57,5)	60 (60-90)	60 (45-100)	<0,001
First analgesic requirement time (min) (25-75)	180 (60-180)	360 (180-360)	360 (270-720)	0,005
First k analgesic requirement (%)	Yes 20 (%44,4)	7 (%24,1)	5 (%14,3)	
	No 25 (%55,6)	22 (%75,9)	30 (%85,7)	0,010
Add disease n (%)	Yes 5 (%11,1)	5 (%17,2)	3 (%8,6)	
	No 40 (%88,9)	24 (%82,8)	32 (%91,4)	0,611
CHEOPS Pain Scale (%)	34 (%75,6)	15 (%51,7)	25 (%71,4)	0,087
VAS (face) Scale n (%)	5 (%11,1)	7 (%24,1)	5 (%14,3)	0,310
VPS (%)	6 (%13,3)	7 (%24,1)	5 (%14,3)	0,432

Table 4: Demographic variables in the Regional Groups

B: Bupivacaine, BM: Bupivacaine+Morfin, BN: Bupivacaine+Neostigmine

CONCLUSION

Despite the type and dose of the parenteral analgesic we administered as postoperative analgesic was sufficient, due to the lack of long term follow-up data the analgesic activities could not be determined and we believe further studies shall be carried out regarding this subject. Addition of adjuvant to the local anesthetic according to the type of operation in paediatric urology and abdominal surgeries both increases the effective period of analgesic and also reduces the need of an additional analgesic.

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