ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of Development Research
Vol. 09, Issue, 02, pp. 26002-26004, February, 2019

ORIGINAL RESEARCH ARTICLE OPEN ACCESS

COMPARISION OF ANALGESIC EFFECT IN CAUDAL ANAESTHESIA & ILIOINGUINAL NERVE BLOCK USING BUPIVACAINE IN PEDIATRIC HERNIOTOMY

***Dr. Vishal Kr. Kandhway**

Senior Resident

ARTICLE INFO

Article History:
Received 14th November, 2018
Received in revised form
26th December, 2018
Accepted 06th January, 2019
Published online 28th February, 2019

Key Words:
Inguinal Hernia, Vomiting,
Urination, Caudal Block,
Ilioinguinal Nerve Block.

ABSTRACT

Dengue Ilioinguinal nerve block is simple procedure that produces analgesia with virtual no side effects, less invasive and less time consuming comparatively easier method and better alternative to caudal block for pediatric herniotomy.

Citation: Dr. Vishal Kr. Kandhway, 2019. "Comparision of analgesic effect in caudal anaesthesia & ilioinguinal nerve block using bupivacaine in pediatric herniotomy", *International Journal of Development Research*, 9, (02), 26002-26004.

INTRODUCTION

- Inguinal hernia is a common pediatric condition occuring in approximately 2% infant males and of slightly reduced incidence on females and high as 9-11% in pre-mature infants.
- Inguinal herniotomy is most commonly performed day surgery procedure under general anesthesia and/or with or without regional anesthesia and is associated with considerable post-operative discomfort.
- Post-operative pain control for pediatric surgeries is a major issue & affects the quality of recovery, parenteral satisfaction and surgical success.
- Regional anesthesia is commonly done via caudal, spinal or by blocking peripheral nerves with local anesthetic agents.
- Opioid when given IV for pediatric analgesia has many disadvantages like post-operative vomiting, respiratory depression and sedation.
- Regional anesthesia techniques are challenging to perform in children in view of close proximity to critical structures, need for sedation or general anesthesia and potential hazards of local anaesthetic toxicity due to overdose.
- Ilioinguinal/iliohypogastric nerve blocks are commonly used for anaesthesia and analgesia for surgeries involving the inguinal region including inguinal hernia repair and orcidopexy. When successfully performed, this block can be as effective as Caudal block.
- Caudal block is more frequently used in anesthesia for inguinal and perineal surgeries as it allows early ambulation and it has the advantage of reducing the required doses of inhalational anesthetics when used in combination with general anaesthesia but there is always the possibility of systemic toxicity due to local anesthetics.
- These 2 methods are nearly similar to each other but not used widely as the procedure is difficult and can create post-procedural anatomical structural distortions.

Aims and Objectives

To study and compare Analgesic effect in Caudal anesthesia and Iioinguinal nerve block using bupivacaine for pediatric herniotomy cases.

****Corresponding author:*** Dr. Vishal Kr. Kandhway,

MATERIAL AND METHODS

Carried out in the Dept Of Anesthesiology, AVBRH, Sawangi during the period of Aug 2015 to August 2016 Patients randomized in 2 groups of 30 each- Prospective Randomized Comparative study conducted on 60 patients of ASA status I & II, Age group 2-7 year.

Group C(n=30)-Received caudal block by 1ml/kg of 0.25 % bupivacaine via LOR technique via sacral hiatus

Group I(n=30)-received 0.4ml/kg of 0.25 % bupivacaine in Ilioinguinal-iliohypogastric nerve

- Approval from the institutional ethics committee and written informed consent were obtained from parents of the patients scheduled for elective inguinal hernia repair.
- Exclusion criteria included a history of clinically significant cardiac, hepatic, renal or neurological conditions and known allergy to local anesthetics.
- General anesthesia was induced with incremental sevoflurane in 100% oxygen. After reaching an adequate depth of anesthesia, a venous access was established and then a laryngeal mask airway was placed. Anesthesia was maintained under spontaneous ventilation with oxygen + nitrous oxide + 2-2.5 MAC sevoflurane.
- Standard intraoperative monitors were applied for measurement of ECG, heart rate, pulse oximetry, non invasive blood pressure and end tidal carbondioxide concentration. Baseline readings were recorded.
- Patients were randomly allocated to one of two groups by means of computer-generated data.

STASTICAL ANALYSIS

- All the data was expressed as Mean ± SD and was analysed using ANOVA test and SPSS ver. 17.
- p value less than 0.05 were considered as statistically significant.

Intra-Operative Measurement

Vital signs were recorded every 5 min after the block to ensure adequacy of the block especially after surgical incision. Surgical procedures were allowed to start 20 min after performance of block.

In case of patient movement at skin incision or increase in either heart rate or respiratory rate to more than 20% of the baseline, fentanyl was given according to body weight and then patient was excluded.

Post-Operative Management

After completion of surgery, children were transferred to the post anesthesia care unit (PACU) for contineous monitoring of vital signs and for pain assessment.

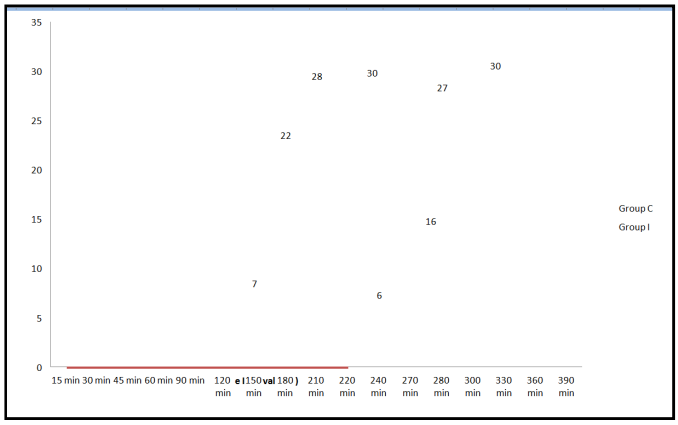
Children were monitored every 15 min during the 1st hour in the PACU and every 30 min in the day care unit till 1st Analgesic dose given (duration of post-op analgesia).

VAS

- Post operative pain was assessed using VAS pain scoring system. Pain was assessed 0, 15, 30, 45, 60 min and half hourly thereafter till 1st analgesic dose was administered.
- At the score >3 rescue analgesic injection tramadol 1.2 mg/kg was given. Time of requirement of 1st analgesic was noted.
- The incidence of vomiting and urinary retention or any relevant side effects were recorded.

Table 1

VARIABLE	GROUP	MEAN ± SD	P VALUE
Age(years)	C	5.2 ± 1.75	0.61, NS
	I	5.4 ± 1.20	
Weight(kg)	C	12.17 ± 2.42	0.26, NS
	I	12.8 ± 1.92	
Duration of surgery in(min)	C	28.5 ± 3.12	0.12, NS
	I	27.2 ± 3.40	
Duration of analgesia(min)	C	220 ± 25.3	0.0001, S
	I	278 ± 30.6	



Graph Representing Pain Score

Table 2

	GROUP C	GROUP I	P value
VOMITING	2	0	0.49, NS
TIME FOR 1ST URINATION (min)	280.7 ± 20.93	200 ± 15.6	0.0001, S

Conclusion

In conclusion ilio-inguinal nerve block is a simple procedure that produces analgesia with virtually no side effects when local anesthetics is infilterated at incision site and local anesthetics are absorbed into themuscular coat and nerves.

Ilio-inguinal is simple, less invasive and less time consuming and comparatively easier method of analgesia and can be a better alternative to caudal block for pediatric herniotomy. nlike caudal block, this anesthetic method does'nt require advanced anatomical knowledge, nor is the procedure difficult.

We think caudal block is an adequate analgesic method for the patients who can't receive ilio-inguinal nerve block.

REFERENCES

Bouchut JC, Dubois R, Foussat C, Moussa M, Diot N, Delafosse C, et al. Evaluation of caudal anaesthesia performed in conscious ex-premature infants for inguinal herniotomies. Paediatr Anaesth.2001;11:55

Dadure C, Sola C, Dalens B, Capdevila X. Pediatric Anesthesia. In: Miller RD, Cohen NH, Erikson LI, Fleicher LA, Weiner-Kronish JP, Young WL, editors. Millers Anaesthesia. 8th ed. Philadelphia: Elsevier; 2014. pp. 2722–4.

Gaitini LA, Somri M, Vaida SJ, Yanovski B, Mogilner G, Sabo E, et al. Does the addition of fentanyl to bupivacaine in caudal epidural block have an effect on the plasma level of catecholamines in children?Anesth Analg. 2000;90:1029–33.

Giaufré E, Dalens B, Gombert A. Epidemiology and morbidity of regional anesthesia in children: A one-year prospective survey of the French-Language Society of Pediatric Anesthesiologists. Anesth Analg.1996; 83:904–12.

Gunter JB, Watcha MF, Forestner JE, Hirshberg GE, Dunn CM, Connor MT, et al. Caudal epidural anesthesia in conscious premature and high-risk infants. J Pediatr Surg. 1991;26:9–14.

Lerman J. Paediatric Anaesthesia. In: Barash PG, Cullen BF, Stoelting RK, Cahlan MK, Stock MC, Ortega R, editors. Clinical Anaesthesia. 7th ed. Philadelphia: Lippincott Williams and Wilkins; 2013. p. 1251.

Mohamed MH, Kamal MM. Comparision of postoperative analgesia of ultrasound-guided ilioinguinal/iliohypogastric nerve block versus ultrasound-guided TAP block for pediatric inguinal hernia repair. Ain-Shams J Anaesthesiol 2015;8:658-663.

Nakamura T, Takasaki M. Metabolic and endocrine responses to surgery during caudal analgesia in children. Can J Anaesth. 1991;38:969–73.

Schechter NL, Berde CB, Yaster M, editors. Pain in Infant, Children and Adolescents. Baltimore: William and Wilkins; 1993.

Teyin E, Derbent A, Balcioglu T, Cokmez B. The efficacy of caudal morphine or bupivacaine combined with general anesthesia on postoperative pain and neuroendocrine stress response in children. Paediatr Anaesth. 2006;16:290–6.