Evaluation of Caudal Epidural Bupivacaine Combined with Pethidine in Infraumbilical Pediatric Surgery

Thesis Submitted for Partial Fulfillment of M.D. Degree in Anesthesiology

BY

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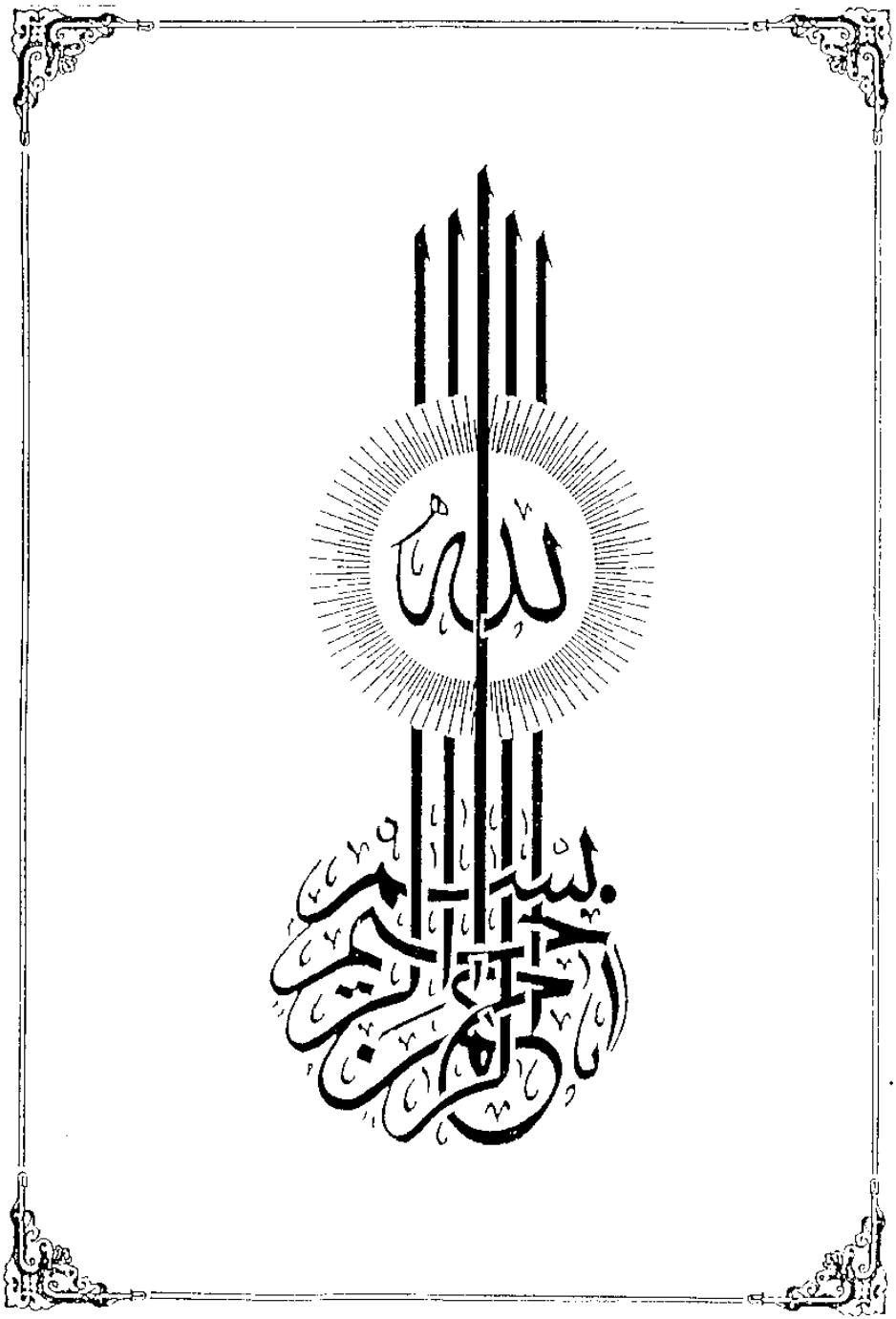
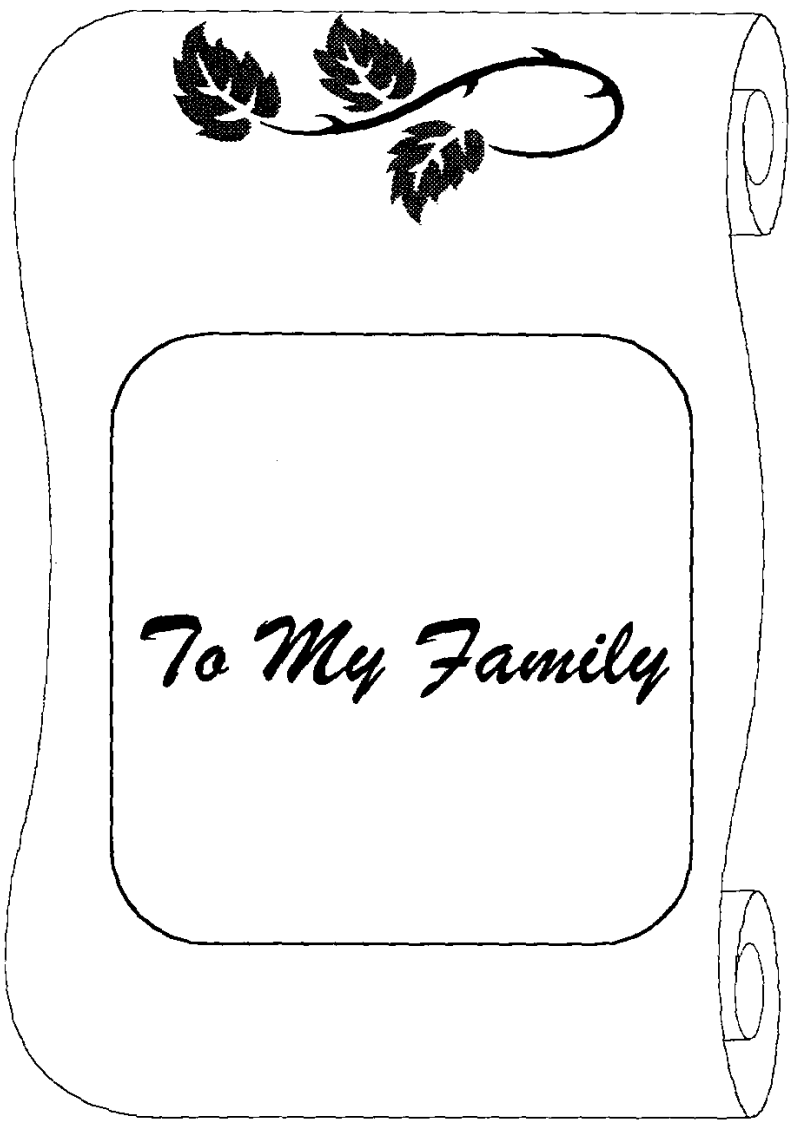
بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم

صدق الله العظيم

سورة البقرة - الآية ٣٢





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List of Contents

	PAGE
Introduction	**1 – 2**
Aim of the Work	**3**
Review of Literature	**4 – 83**
Anatomy of the caudal area of the spine.	4 – 14
Pain pathways.	15 – 22
Pediatric pain.	23 – 37
Cardiovascular effects of epidural blockade.	38 – 40
Epidural pethidine.	41 – 51
Opioid antagonists.	52 – 54
Bupivacaine.	55 – 71
Pediatric regional anesthesia.	72 – 83
Patients and Methods	**84 – 93**
Results	**94 – 122**
Discussion	**123 – 140**
Conclusion and Recommendations	**141**
Summary	**142 – 144**
References	**145 – 163**
Arabic Summary	**1 – 4**

List of Figures

No.	Figure	Page
Figure (1):	The sacrum, dorsal aspect.	6
Figure (2):	Anatomic variants of dorsal wall of sacrum and sacral hiatus.	8
Figure (3):	Sacral canal, sacral nerves, and sacral venous plexus.	10
Figure (4):	Rectus abdominis has been removed to reveal the posterior rectus sheath.	12
Figure (5):	View of abdominal wall after removing skin and superficial fascia.	14
Figure (6):	Pain pathway.	16
Figure (7):	Reflex activation of nociceptors and convergence of visceral and somatic nociceptive afferents.	20
Figure (8):	Postoperative analgesia modalities that may affect the neuroendocrine response to surgery and pain.	22
Figure (9):	Measures used to assess children's pain.	30
Figure (10):	Sympathetic blockade associated with epidural anesthesia / analgesia.	39
Figure (11):	Meperidine.	41
Figure (12):	Lipid-soluble epidural opioids may gain rapid access to the CSF by diffusion across the arachnoid granulations in the dural cuff region.	43
Figure (13):	Hepatic metabolism of normeperidine.	48
Figure (14):	Naloxone.	52
Figure (15):	Chemical structure of bupivacaine.	55
Figure (16):	General formula for local anesthetic drugs.	57
Figure (17):	Relation between free fraction and age.	58
Figure (18):	Mode of action of a local anesthetic drug.	63
Figure (19):	Lateral Sim's position for caudal block.	78
Figure (20):	A 23- or 25-gauge needle is inserted through the sacral hiatus at 45° angle.	79
Figure (21):	After passage through the sacrococcygeal ligament, the anterior wall of the sacral canal is contacted.	80

No.	Figure	Page
Figure (22):	Misplacement of needle during attempted caudal block.	82
Figure (23):	Comparison between mean heart rate values in the 3 study groups.	100
Figure (24):	Comparison between mean systolic blood pressure values in the 3 study groups.	102
Figure (25):	Comparison between mean diastolic blood pressure values in the 3 study groups.	104
Figure (26):	Comparison between mean respiratory rate values in the 3 study groups.	106
Figure (27):	Comparison between mean oxygen saturation values in the 3 study groups.	108
Figure (28):	Comparison between mean end tidal CO_2 values in the 3 study groups.	110
Figure (29):	Comparison between mean halothane concentration values used in the 3 study groups.	112
Figure (30):	Comparison between mean rectal temperature values in the 3 study groups.	114
Figure (31):	Comparison between recovery time mean values in the 3 study groups.	116
Figure (32):	Comparison between mean pain score values in the 3 study groups.	119
Figure (33):	Frequency of analgesic consumption in the 3 study groups.	120
Figure (34):	Incidence of vomiting in the 3 study groups.	121

List of Tables

No.	Table	Page
Table (1):	Self-reported measures of pain.	28
Table (2):	Behavioral rating scales.	32
Table (3):	Pain / discomfort scoring system.	33
Table (4):	Advantages and disadvantages of cognitive, behavioral, and physiologic pain measures.	37
Table (5):	Physicochemical and pharmacokinetic properties of several opioids.	44
Table (6):	Antinausea medications.	51
Table (7):	Chemical structure, physichemical and pharmacological properties of the commonly used local anesthetics.	56
Table (8):	Comparison of mean elimination half-lives of lidocaine and bupivacaine in pediatric patients.	61
Table (9):	Dependence of steady-state bupivacaine concentration on infusion rate.	61
Table (10):	Pediatric dosing regimens for regional anesthesia / analgesia.	67
Table (11):	Comparative CNS and CVS toxicity of local anesthetics.	69
Table (12):	Age of patients in the 3 study groups.	96
Table (13):	Body weight of patients in kilograms in the 3 study groups.	96
Table (14):	Sex of patients in the 3 study groups.	97
Table (15):	Duration of the surgical procedures in the 3 study groups.	97
Table (16):	Distribution of the surgical procedures in the 3 study groups.	98
Table (17):	Comparison between heart rate values between the 3 study groups.	99
Table (18):	Comparison between systolic blood pressure values between the 3 study groups.	101

No.	Table	Page
Table (19):	Comparison between diastolic blood pressure values between the 3 study groups.	103
Table (20):	Comparison between respiratory rate values between the 3 study groups.	105
Table (21):	Comparison between oxygen saturation values between the 3 study groups.	107
Table (22):	Comparison between end tidal carbon dioxide values in mmHg between the 3 study groups.	109
Table (23):	Comparison between halothane concentration values between the 3 study groups.	111
Table (24):	Comparison between rectal temperature values between the 3 study groups.	113
Table (25):	Comparison between recovery time values in minutes between the 3 study groups.	115
Table (26):	Comparison between pain score values between the 3 study groups at different times after removal of the LMA.	117
Table (27):	Comparison between frequency of acetaminophen administration between the 3 study groups.	120
Table (28):	Incidence of vomiting in the 3 study groups.	121
Table (29):	Time to first micturition in the 3 study groups.	122

Introduction

Introduction

Pediatric patients present developmental, anatomic, psychologic, physiologic and pharmacologic challenges that should be reviewed thoroughly before dealing with anesthetic or analgesic techniques for different surgical procedures ***(Stoelting and Dierdorf, 1993; and Steward, 1995)***.

For a long time in the past; neonates, infants and children were deprived from different anesthetic and analgesic modalities during painful maneuvers and operations. Even if they were allowed to receive anesthesia during the procedure, they were left to suffer postoperative pain ***(Houck et al., 1994)***.

The pathophysiologic consequences of this policy are alarming resulting in early derangement and delayed psychic trauma ***(Houck et al., 1994)***.

Modern anesthetic practice requires the provision of preoperative sedation, intraoperative painless surgery and postoperative analgesia. Great advances of drug polypharmacy and techniques have been developed to fulfil smooth painless management of anesthesia and recovery ***(Hanallah, 1997)***.

Of these modalities comes caudal epidural analgesia as an excellent adjuvant to general anesthesia as it has many advantages. It decreases general anesthetic consumption, permits rapid smooth recovery and good postoperative analgesia with early patient discharge ***(Hanallah, 1997)***.

For caudal epidural analgesia, local anesthetics are used, bupivacaine being the most common. Bupivacaine gives a good period

of postoperative analgesia with usual preservation of motor power ***(Lofstrom and Bengtsson, 1995)***.

Different narcotics have been used for pediatric caudal epidural analgesia. In contrast to the hydrophilic morphine, pethidine is mainly lipophilic with a lower incidence of respiratory depression; pruritis and urinary retention. When both pethidine and bupivacaine are injected together into the caudal epidural space, a synergistic effect is expected with prolongation of postoperative analgesia. However, risks of both of these drugs must also be considered ***(Kumar and Jacob, 1993)***.

Aim of the Work

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The aim of this work is to evaluate the effectiveness of the combination of pethidine with bupivacaine on operative and postoperative analgesia when they are administered by the caudal route in infants and children undergoing infraumbilical surgery.