Ropivacaine for Extradural Anesthesia

Comparative Study with Bupivacaine

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

BY

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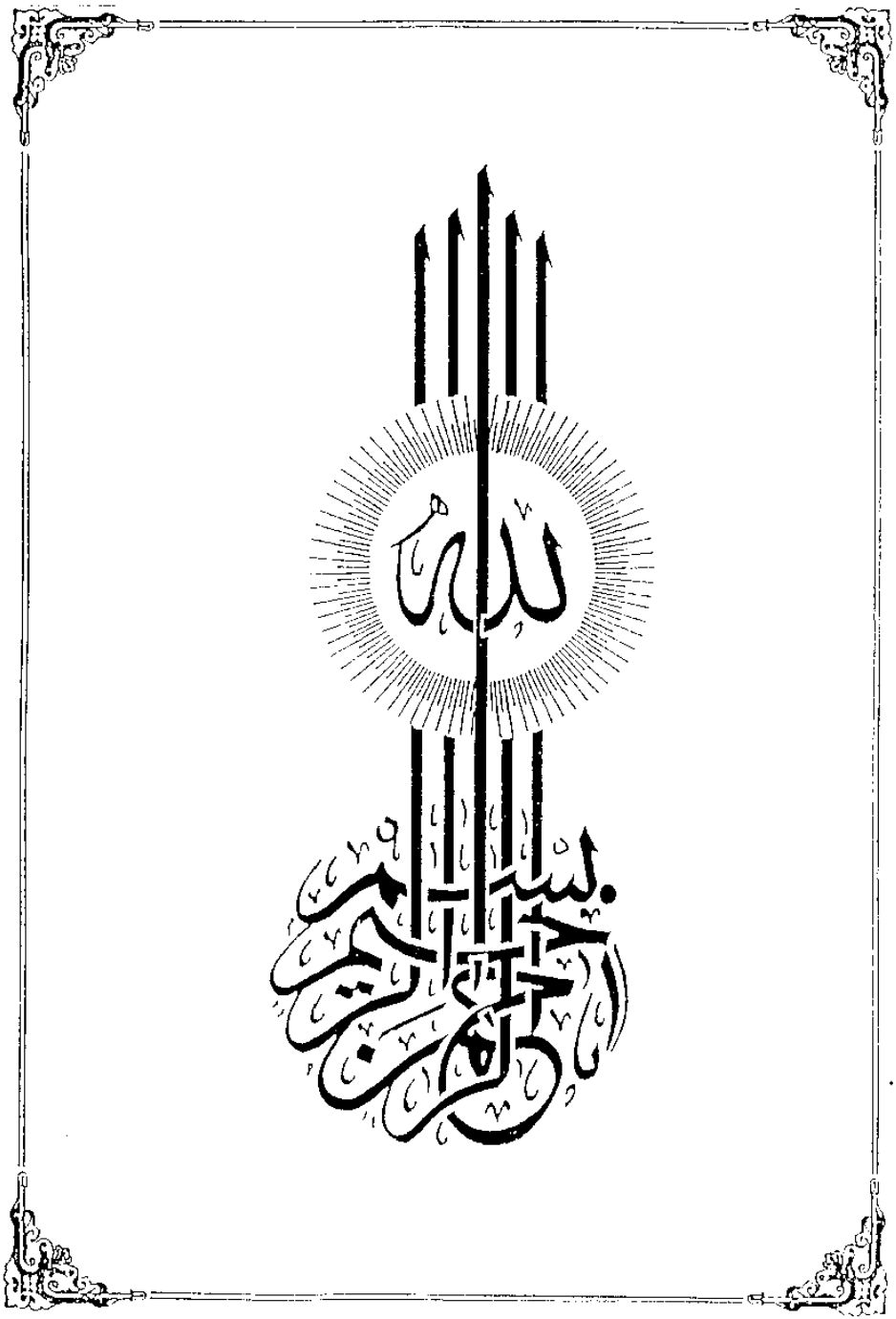

وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ

وَكَانَ فَضْلُ اللَّهِ عَلَيْكَ عَظِيمًا

صَدَقَ اللهُ العَظِيم

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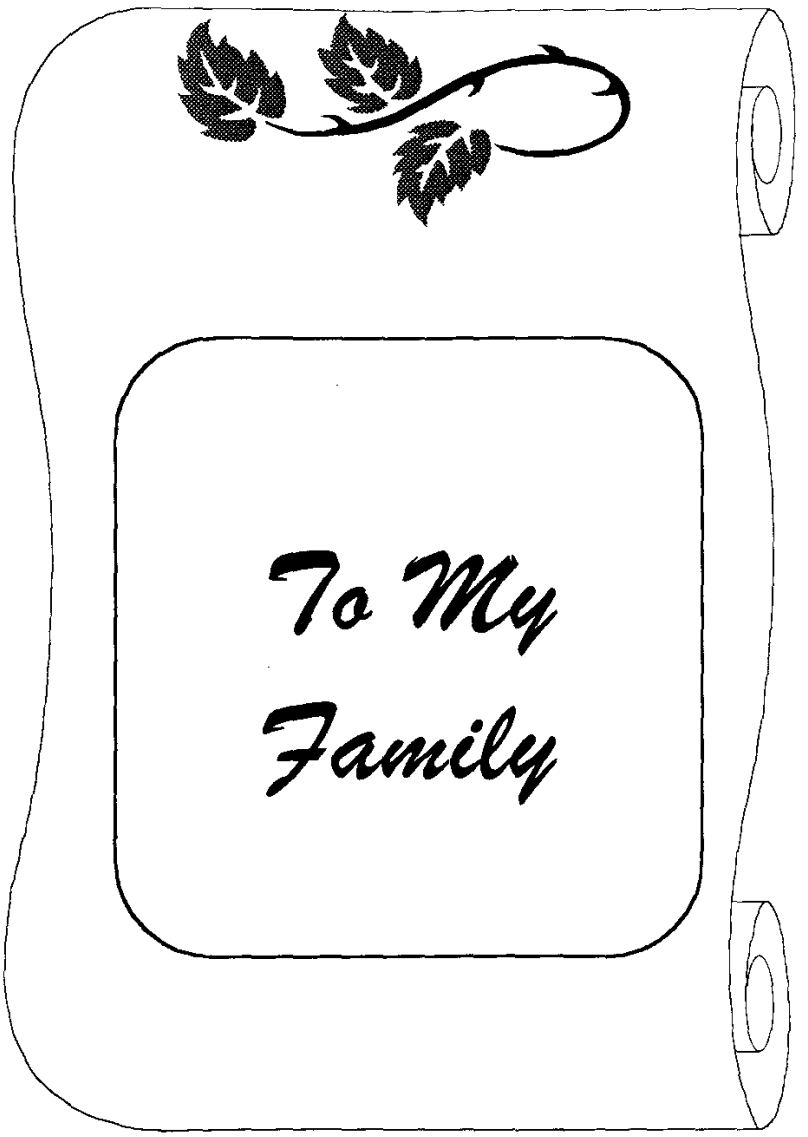

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Abeer El-Dick

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Introduction

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Regional anesthesia is an act based on a science. This science involves knowledge of the anatomy of the nervous system and pharmacology of local anesthetics.

The patient under regional anesthesia has a major advantage over general anesthesia; he can protect himself against aspiration of gastric contents, a dreadful complication that may happen under general anesthesia; also there is postoperative analgesia and fewer chest complications.

Epidural block avoids dural puncture with slower onset of hypotension. Also, the catheter technique allows flexibility in extent and duration of the block.

Epidural block carries the potential hazards of cardiovascular and nervous system toxicity due to large doses of local anesthetic drugs.

Ropivacaine is a new long-acting local anesthetic drug which has been developed as an alternative to bupivacaine ***(Morrison, 1994)***. Ropivacaine is less likely than bupivacaine to produce nervous system toxicity ***(Scott, 1996)***, cardiovascular toxicity ***(Stinkamp, 1989)***, and its clearance is more rapid than bupivacaine ***(Jeffery, 1990)***.

The duration of sensory blockade with ropivacaine is similar to or greater than that of bupivacaine while the intensity of motor blockade of ropivacaine is similar to that of bupivacaine ***(Feldman, 1986)***.

Extradural administration of ropivacaine in concentrations of 0.5%, 0.75%, and 1.0% showed that it has a long-lasting effect which gives surgical anesthesia of good quality. Increasing the concentration decreased the onset time and increased motor blockade *(McCure, 1996)*.