شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالاصل

A Comparison of Minidose Bupivacaine – Fentanyl and Conventional Dose Bupivacaine Spinal Anesthesia for Surgical Repair of Hip Fracture in the Aged.

Thesis
Submitted for Partial Fulfillment of the requirements of the master degree in
"Anesthesiology"

By

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بسم الله الرحمن الرحيم

(يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ)

(المجادلة: من الآية ١١)

صدق الله العظيم

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Spinal anesthesia is often used for surgical repair of traumatic hip fracture , a procedure largely restricted to the geriatric population. These patients have a particularly high incidence of hypotension during spinal anesthesia. [1, 2, 3]

Minidose spinal anesthesia with bupivacaine alone for elderly patients undergoing hip surgery yielded only a moderate incidence of hypotension (42.5%) and in 15% of these patients this minidose did not provide an adequate level of sensory block. [4]

Therefore, although the use of a single-shot low-dosage local anesthetic for spinal blockade may limit hypotension , it may not provide acceptable anesthesia. Opioids and local anesthetics administered together intrathecally have a potent synergistic analgesic effect. [5,6]

The increasing amount of ambulatory surgery stresses the importance of fast recovery after anesthesia . With the addition of lipophilic opioids to local anesthetics , it is possible to improve the quality of anesthesia and increase anesthetic success when low dose bupivacaine is administered. [7, 8, 9, 10]

Intrathecal opioids enhance analgesia from subtherapeutic doses of local anesthetic and make it possible to achieve successful spinal anesthesia using otherwise inadequate doses of local anesthetic. [11, 12] Yet because intrathecal fentanyl causes neither by itself nor in combination with bupivacaine any further depression of efferent sympathetic activity, it is possible to enhance the sensory blockade without altering the degree of sympathetic blockade. [12]

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Anatomy of lumbar vertebrae

The spinal cord and its nerve roots lie within the central bony canal of the vertebral column, which provides them with structural support and protection. The vertebral column is made up of 7 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 4 coccygeal vertebrae. With some notable exceptions, most vertebrae have similar features: a vertebral body, two pedicles, and two laminae. The spinal canal is bounded anteriorly by the vertebral bodies, laterally by the pedicles, and posteriorly by lamina. [13] Each vertebra has a midline spinous process that arises between the laminae and two transverse processes. These processes serve as attachments for ligaments and muscles. Each vertebra also has four articular processes: two that project upward and two that project downward. Articular processes serve as synovial joints between vertebrae. The joint formed between the articular processes of adjacent vertebrae is commonly referred to as the facet joint. [14] Adjacent vertebral bodies are attached via fibrocartilaginous intervertebral disks. Pedicles have large notches on their inferior surface and smaller notches on their superior surface. Notches from adjacent vertebrae form intervertebral foramina, through which nerve roots exit the spinal column. [15]

The vertebral column normally forms a double C, being convex anteriorly in the cervical and lumbar regions and posteriorly in the thoracic and sacral regions. Ligamentous elements provide structural support and together with supporting muscles help maintain the unique shape. Ventrally, the vertebral bodies and intervertebral disks are connected and supported by the anterior and posterior longitudinal ligaments. Dorsally, the ligamentum

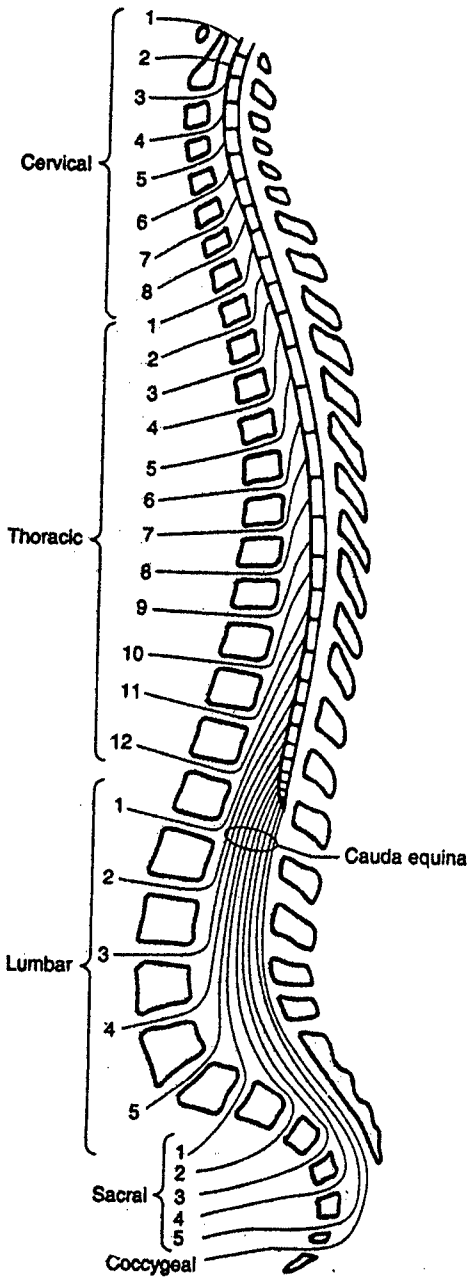

Fig. (1) : The vertebral column. [28]

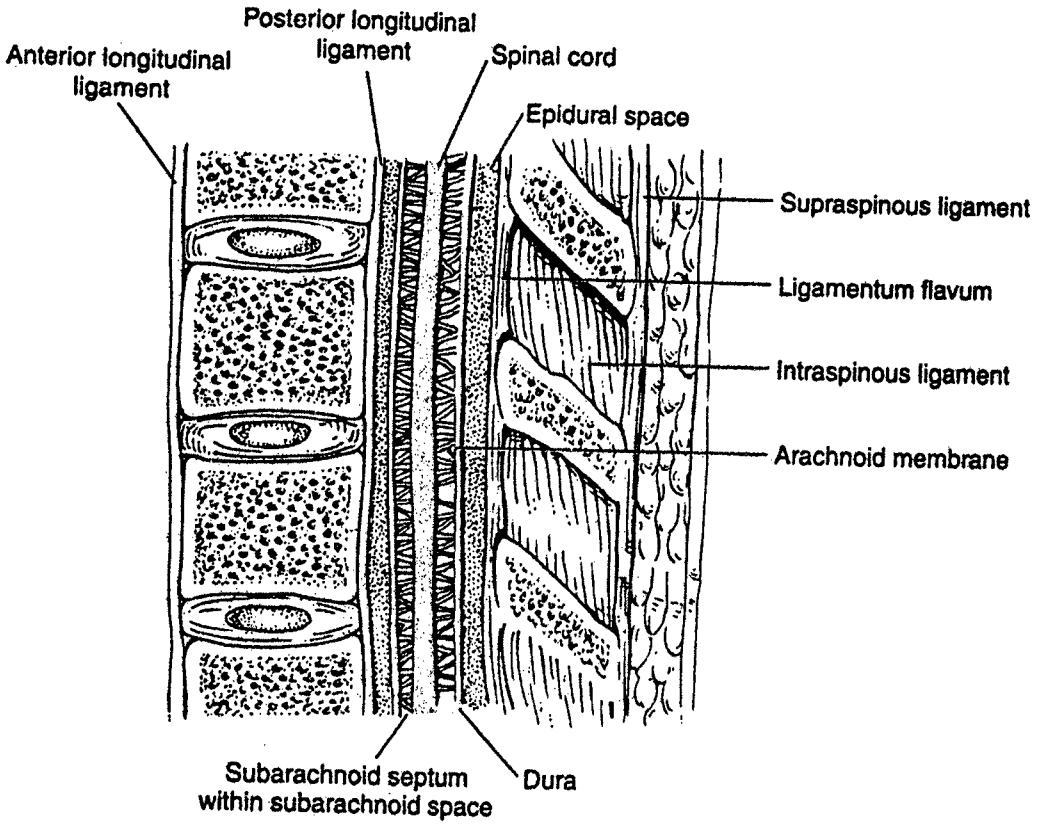

Fig. (2) : Saggital section through lumbar vertebrae. [28]