سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات لم ترد بالأصل

EFFECT OF ADDING FENTANYL AND/OR CLONIDINE TO LIDOCAINE DURING AXILLARY BRACHIAL PLEXUS BLOCK

THESIS

Submitted for the Partial Fulfillment of the requirments of the Master Degree

In

Anesthesiology

By

Taysser Mahmoud Ahmed Abd El-Raheem

(M.B.,B. Ch., M. Sc.)

Supervisors

Prof. Dr.

Abd El-Aziz Hamed El-Badawy

Prof. of Anesthesiology

Faculty of Medicine

Tanta University

Dr.

Sohair Moustafa Soliman

Assistant Prof. of Anesthesiology

Faculty of Medicine

Tanta University

FACULTY OF MEDICINE

TANTA UNIVERSITY

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بسم الله الرحمن الرحيم

قَالُوا سُبْحَانَكَ

لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

آيه ٣٢ سورة البقرة

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INTRODUCTION

INTRODUCTION

Brachial plexus block in most of upper limb surgery provides ideal operating conditions for the surgeon with good analgesia, complete muscle relaxation and sympathetic block which reduces post operative vasospasm, pain and oedema[1,2].

The addition of fentanyl in brachial plexus block is reported to improve the success rate and post-operative analgesia[3]. The ability of clonidine to enhance the central and peripheral neural blockade when added to local anesthestic has been demonstrated for more than a decade[4,5]. Its mechanism of action remains unclear, it may be a direct local action on the nerve itself, facilitation of local anesthetic action or systemic absorption[6].

REVIEW OF LITERATURE

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ANATOMICAL REVIEW

Anatomy of the brachial plexus :

The brachial plexus is derived from the anterior primary rami of fifth, sixth, seventh and eighth cervical and the first thoracic nerves with variable contributions from the fourth cervical and second thoracic nerves [7] .

After leaving their inter-vertebral foramina, these nerves course anterolaterally and inferiorly to lie between anterior and middle scalene muscles.

The prevertebral fascia invests both the anterior and middle scalene muscles fusing laterally to enclose the brachial plexus in a fascial sheath.

Between the scalene muscles, these nerve roots unite to form three trunks which emerge from the interscalene space to lie cephaloposterior to the subclavian artery as it courses along the upper surface of the first rib, therefore, the superior (C_5 and C_6) , middle (C_7) and inferior (C_8 and T_1) trunks are arranged accordingly and are not in a strict horizontal formation[7] .

At the lateral edge of the first rib each trunk forms an anterior and a posterior division that pass posterior to the mid portion of the clavicle to enter the axilla where these divisions form the lateral, posterior and medial cords named for their relationship with the second part of the axillary artery [8] .

The superior division from the superior and middle trunks form the lateral cord, the anterior division of the inferior trunk continues as the medial cord and the inferio divisions from all three trunks form the posterior cord. At the lateral border of the pectoralis minor the three cords divide into the peripheral nerves of the upper extremity[8] .

The lateral cord gives rise to the lateral head of the median nerve and the musculocutaneous nerve; the medial cord gives rise to the medial head of the median and the ulnar nerve, the medial antebrachial and the medial brachial cutaneous nerves. And the posterior cord divides into the axillary and the radial nerves[8] .

Aside from the branches from the cords that form the peripheral nerves as described, several branches arise from the roots of the brachial plexus providing motor innervation to the rhomboid muscles (C_5), the subclavian muscles (C_5 and C_6) and the serratus anterior muscle (C_5 and C_6 and C_7), the supra scapular nerve arises from (C_5 and C_6) supplies the muscles of the dorsal aspect of the scapula as well as making a significant contribution to the sensory supply of the shoulder joint[7] .

Branches from the cervical roots are usually blocked only with the interscalene approach to the brachial plexus[7] .

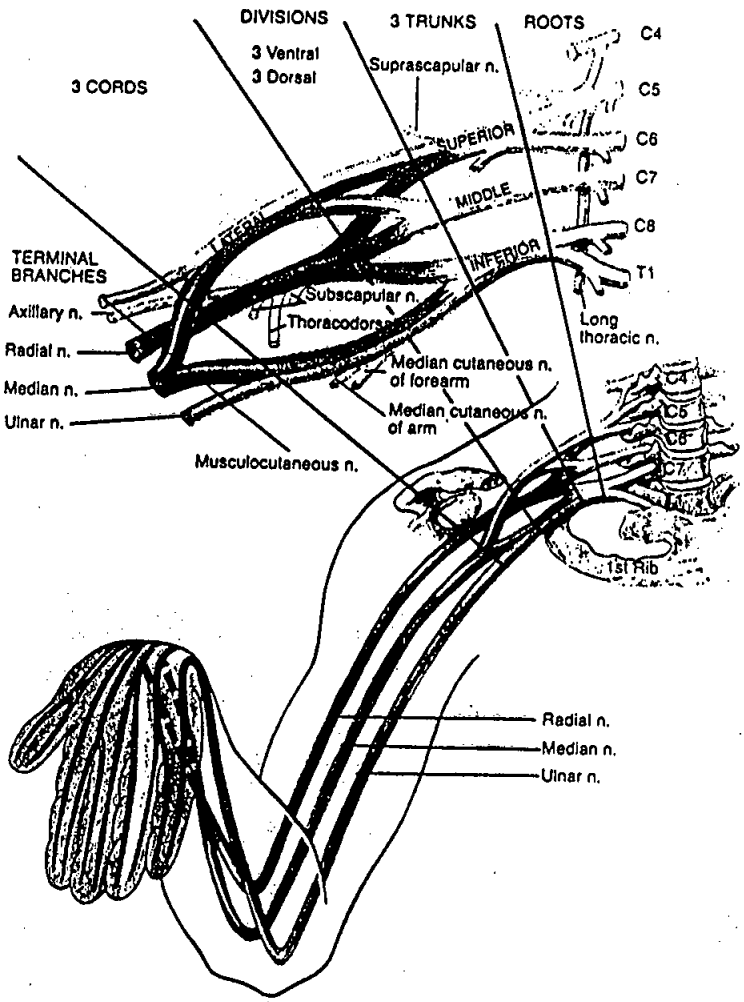

Fig. (1): Anatomy of the brachial plexus