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ثبكة المعلومات الجامعية



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التوثيق الالكتروني والميكروفيلم



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نبكة المعلومات الجامعية



ROLE OF MOTOR EVOKED POTENTIAL IN THE PREDICTABILITY OF SURGICAL RESULTS OF HERNIATED DISC INDUCED CERVICAL MYELOPATHY UNDER DIFFERENT ANESTHETIC TECHNIQUES

Thesis

Submitted for partial fulfillment of M.D. Degree in Anesthesiology

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Cairo University 2005





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﴿ قَالُواْ سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا ۗ إِنَّكَ أَنتَ ٱلْعَلِيمُ ٱلْحَكِيمُ ﴾

صدقالله العظيم

(البقرة ٣٢٠)

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ABSTRACT

Intraoperative (MEPs) application provides a method monitoring the functional integrity of motor pathways. However, these potentials are sensitive to suppressive effect by most anesthetic agents. The aim of this work is to evaluate the role of TceMEPs in predicting motor system affection and surgical outcome during anterior cervical microdiscectomy operations and comparing the outcome under two anesthetic regimens (propofol-fentanyl) versus (sevoflurane-N2O). This study included 60 patients divided into two groups (I, II). Anesthetic plane was induction by propofol and use of atracurium for intubation and muscle relaxation in predetermined doses. Maintenance of anesthesia in group (I) was by (propofol-fentanyl) infusion and in group II by (sevoflurane-N2O). During operation TceMEPs monitoring with myogenic recoding of (CMAPs) from the four limbs was done. The stimuli and so the recordings of (CMAPs) would be collected at five different time intervals; (before induction, after induction, during surgical manipulations, after completion of surgery, after reversal of muscle relaxants). By comparing between 1st and 2nd reading in both groups, we could detect the effect of used anesthetics on (CMAPs). By comparing the 2nd, 3rd and 4th readings, we could detect the effect of surgical maneuvers (CMAPs) and hence the functional integrity of motor segment at risk. Finally, we conclude that; (CMAPs) recorded under (sevoflurane-N₂O) anesthesia had statistically significant lower amplitude than that recorded during (propofol-fentanyl) one, whereas both regimens had minimal non-significant prolongation of latencies. However, multipulse TceMEPs monitoring with myogenic recording remained stable throughout the operation under both regimens provided that the degree of anesthesia and analgesia were kept constant.

Also, Tce MEPs monitoring with myogenic recording of (CMAPs) alone could only point to harmful surgical manipulations but could not determine how much these manipulations will progress to permanent postoperative motor deficit. It is suggested that multipulse TceMEPs with epidural and myogenic recordings will show high degree of accuracy in predicting post-operative motor deficit.

Key ward: MEPs- Spine Surgery - Sevofluran - Propofol

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