LUPINE PUBLISHERS

Global Journal of Anesthesia & Pain Medicine

DOI: 10.32474/GJAPM.2019.02.000139

ISSN: 2644-1403

Mini Review

Neuro Anesthetic Monitoring and Positioning the Patients During Neurosurgical Operations

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Received: December 09, 2019 **Published:** December 16, 2019

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Monitoring the patients during neurosurgical operations, plays an important role to get best surgical results. Central venous pressure and arterial pressure monitoring are important in specific neurosurgical operations [1]. ICP monitoring during neurosurgical approaches, is also of importance in some neurosurgical approaches. Cerebral oxygenation monitoring, jugular venous oximetry, motor and somatosensory evoked potentials, transcranial and precordial Dopplers and electromyography are some neuromonitoring techniques which can be used based on the patient's condition and requirements for specific neurosurgical operations [2-4]. Another neuromonitoring technique which can quantify the hormones, neuropeptides and neurotransmitters in the brain and gives valuable information about the brain's microenvironment, is cerebral micro dialysis [5-7].

Patient's positioning during neurosurgical approaches, is another important factor to get best surgical results. There are various positions which can be used during neurosurgical operations including lateral, prone, supine, sitting and semi-sitting ones. Sitting, semi-sitting or prone positions can be used for the patients based on the surgeon's discretion to approach posterior fossa pathologies [8]. Venous thromboembolism risk is much higher in the sitting and semi-sitting positions in comparison with other neurosurgical positions. There are various notes that should be of notice during positioning the patients for neurosurgical operations to reduce the possible risks of surgical and anesthetic complications including securing endotracheal tube specifically in prone and sitting positions [9], avoiding excessive flexion and rotation of the neck, making venous and arterial lines straight, padding the pressure points, avoiding eyes compression in prone position and also avoiding limbs excessive stretching during positioning. It is important for the surgeons and neuro anesthesiologists to have knowledge about monitoring techniques and patient's positioning during neurosurgical operations, to avoid surgical complications and getting best surgical results [10].

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