

Changing Trends of Inhalation to TIVA for Elective Brain Surgery in Myanmar.

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Abstract

Total intravenous anesthesia (TIVA) has been accepted as an alternative to the traditional balanced anesthesia with volatile anesthetics as it provides safe and fast induction, maintenance and termination of general anesthesia followed by short recovery times .With the use of Target Controlled Infusion (TCI) & drug such as Propofol and newer short-acting opioids ,TIVA has become more popular.

The primary goal of the anesthetist is to select an appropriate anaesthetic technique, make the operation safe and assure adequate cerebral perfusion and timely emergence from anaesthesia .Despite advances in drugs and monitoring modalities, the basic principles of neuroanaesthesia remain unchanged , the provision of optimal operative conditions ,maintenance of cerebral perfusion pressure (CPP), and cerebral oxygenation.

Volatile anaesthetic agents at equipotent doses and normocapnia, cerebral blood flow (CBF) and ICP were greatest with desflurane and least with sevoflurane. Cerebral pressure autoregulation was preserved with Sevoflurane during 0.2 and 1.5 MAC which favouring its use in Neuroanaesthetic practice.

Propofol is widely used as a component of TIVA and has many theoretical advantages in neuroanaesthesia by reducing cerebral blood volume (CBV) and ICP and preserving both autoregulation and vascular reactivity. Neurosurgical patients anaesthetized with propofol were found to have lower ICP and higher CPP than those anaesthetized with isoflurane or sevoflurane.

In Myanmar , there are 4 main Neurosurgical units in public hospitals. TIVA was started to used for Neuroanaesthesia in Yangon General Hospital since 2012 & started TCI in 2014.

Average neurosurgical operation time at military hospital was 5 ± 2 hours . Recovery time were 20 ± 5 min with Isoflurane anaesthesia ,TIVA+Sevo was 10 ± 5 min & TIVA with air Oxygen was 10 ± 5 min. 3 centers under health ministry are using TCI & military hospital is still with TIVA±Sevoflurane. .