INTRODUCTION

Before the introduction of brain function monitors to gauge anaesthetic depth, it had been customary to titrate anaesthetic agents by targeting an appropriate range of hemodynamic parameters, such as heart rate and systemic blood pressure. In the present era of "balanced anaesthesia" , we have disassociated 3 components of anaesthesia, i.e., unconsciousness, analgesia, and immobility, which are independently controlled with a hypnotic, an analgesic, and a neuromuscular blocking agent, respectively. An increase in heart rate and blood pressure sometimes signals awareness or insufficient analgesia, especially if combined with neuromuscular blockade. A decrease in heart rate and blood pressure, however, might indicate a relative overdose of a hypnotic or analgesic drug. Such a decrease in hemodynamic parameters beyond physiologically acceptable levels could potentially be associated with hypoperfusion of major vital organs. Changes in these parameters thus signal an "imbalance" in balanced anaesthesia and prompt us to titrate each agent to recover normal circulation ***(Kurata , 2010) .***

The use of these clinical signs in judging dosage of anaesthetic agents can lead to either over dosage or under dosage, which can result in adverse effects due to too deep or too light anaesthesia ***(Punjasawadwong et al., 2007).***

Intraoperative awareness occurs when a patient becomes conscious during a procedure performed under general anaesthesia and subsequently has recall of these events ***(Sebel et al., 2004).***

The long-term consequences of an awareness episode vary. Some patients do not have any long-term disability, whereas others develop psychological problems that may be severe and persistent ***(Leslie et al., 2009).***

Post-Traumatic Stress Disorder (PTSD) is a debilitating disorder that can arise in a fraction of patients after awareness during general anaesthesia. It has the potential to increase morbidity and mortality, increase the use of health care resources, and lead to a nonproductive, dysfunctional life. It is important to identify those at risk and to provide early treatment to avoid continued disability of the patient. The "gold standard" for diagnosing PTSD is a structured clinical interview by a psychiatrist or clinical psychologist experienced in the assessment and treatment of PTSD ***(Ghoneim , 2010).***

Bispectral index (BIS) , weighted values derived from a historical database of encephalography of anaesthetized patients , has been introduced into clinical practice to measure the hypnotic component of anaesthesia ***(Kissin , 2000).***

BIS is a dimensionless number scaled from 100 to 0 ,with 100 representing an awake electroencephalogram and 0 representing electrical silence ***(Rampil , 1998).***

Over the last 9 years a large body of experimental research has accumulated on the use of the bispectral index in monitoring hypnosis during sedation and general anaesthesia. The Food and Drug Administration (FDA) has approved this device for titration of hypnosis and for reducing the incidence of awareness during anaesthesia . Numerous studies have documented the ability of BIS to reduce

intermediate outcomes such as hypnotic drug administration, extubation time, postoperative nausea, and shorten recovery room discharge. BIS provides clinicians with unique information that can be used to tailor hypnotic drug dose to individual patient requirements ***(Johansen , 2006).***

Assessing depth of anaesthesia remains a challenge for the anaesthesia provider as clinical signs are unreliable and there is no sensitive and specific monitor. Bispectral Index monitoring with the goal of scores <60 has been recommended to prevent awareness ***(Robins and Lyons , 2009).***

When anaesthesia is titrated using bispectral index monitoring, patients generally receive lower doses of hypnotic drugs and, as a consequence, they emerge faster from anaesthesia with less postoperative nausea and vomiting. Intraoperative hypotension and organ toxicity might also be avoided if lower doses of anaesthetics are administered. Thus , monitoring with BIS and absence of BIS values <40 for >5 min were associated with improved survival and reduced morbidity ***(Leslie et al., 2010).***

Information offered by ***Leslie et al., 2010*** retrospective survey, motivates us toward a better anaesthetic management using the strict titration of BIS to values between 40 and 60; it has added one piece of information to a line of evidence that suggests a potential role for BIS-guided anaesthetic titration to improve the outcome of surgical patients. Let us look forward to the patients' healthy and happy smiles post-operatively and go for a safe drive with titrated, well balanced, and thoughtful anaesthesia! ***(Kurata , 2010).***