

Clinical monitoring of our patients – have we lost the art?

In this day and age of BIS monitoring, transthoracic bioimpedance, TCI and the like, we seem to get totally distracted by our machines and gadgets, and sometimes forget basic clinical monitoring of our patients. Many of us were taught this during an era when the hand and eye were all we had, and were certainly more reliable than the pulsometer or oscilloscope screen.

If one reads the chapter on Monitoring in the 13th edition of Lee's Synopsis of Anaesthesia¹, monitoring has 3 components:

- Clinical monitoring
- Instrumental monitoring – of the patient and of the anaesthetic machine
- Additional monitoring

Under clinical monitoring the following important point is made: "The most important factor for clinical monitoring is the continual presence of a trained and competent anaesthetist. This applies to general and regional anaesthesia, sedation with multiple drugs and the early phase of recovery." The clinical signs that are listed are those pertinent to circulation, respiration, oxygenation and depth of anaesthesia (lacrimation, sweating, etc).

Obviously instrumental monitoring refers to our well established and currently accepted technology, as applied to the patient and to the anaesthesia delivery system.

Additional monitoring includes coagulation testing, blood gas analysis and cardiac output monitoring, be it invasive or non-invasive.

One of the most important factors in looking at monitoring and monitors, is their limitations. In a study by Runciman et al² in Australia in 1993, they concluded that more than 70% of critical incidents occurring during anaesthesia are detectable by a monitor, and that of these, over 80% would be detectable by correct use of pulse oximetry. If used together with capnography, over 90 % of such incidents are detectable. However, they also conclude that if resources are limited, a high level of safety may still be achieved by a careful, conscientious anaesthetist. Whilst I accept that oximetry and capnography can be considered essential monitors in anaesthesia in 2008, let us not lose the art of clinical monitoring.

References

1. Synopsis of Anaesthesia, 13th Ed; chapter 2.2
2. Runciman et al. Anaesth Intens Care 1993; 21:529-542

Christina Lundgren

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