

Clinical Pharmacology in the OR with Drager Smart Pilot View

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The last decades have brought several improvements in our knowledge of the kinetics and dynamics of anesthetic drugs and the monitoring of their effects. It is now common for the anesthesiologists to rely upon models when giving balanced anesthesia through dedicated devices in pure TCI mode or even in TCI-view mode when country regulations still not allow full TCI mode.

Monitoring of the effect of the drugs helps to titrate at a desired level. This is more and more current with processed EEG monitors for the level of hypnosis, while monitors for the level of antinociception are being developed or are coming to the market..

A balanced anesthesia implies to use the different anesthetic drugs -in particular hypnotics and opioids, in such a way that their synergy will be beneficial for the patients with no excess or under dosing for one or the other drug. Drugs interactions models may bring here tremendous changes. Optimizing these interactions between anesthetic drugs remains challenging.

Drager SmartPilot view is a decision support tool designed for the Drager Anesthesia machines associated with monitors (Drager, Philips) and smart syringe pumps. It includes PK/PD models for most of the anesthetic drugs along with drugs interaction models for hypnotics and opioids. A probabilistic model for response to noxious stimulations is also incorporated. A smart display of the kinetics of each drug -hypnotics and opioids and their interactions show to the anesthesiologist the present situation and a prediction for the next 10 and 15 minutes and this may allow an optimal choice of the dosage of each drug and predict the consequences of the choice of a given bolus or infusion rate.

The presentation will show the requirements for the design of such a clinical pharmacology tool for the OR and examples of its usage in clinical situations.