qCON publication list.

Introduction.

The qCON development used a database where including data from patients anaesthetized with the most common anaesthetics, both volatile and TIVA. The reference was Auditory Evoked Potentials, which has an anatomically identifiable origin, and has been considered the "holy grail" for monitoring depth of anaesthesia.

The essential element in the qCON algorithms is the Adaptive Neuro Fuzzy Inference System (ANFIS). The ANFIS combines inputs derived from the EEG to form the final index of hypnotic effect. ANFIS is a fuzzy logic model tuned with a backpropagation algorithm known from artificial neural networks.

One of the landmark studies in this list was published by Chan et al 2005 who showed (using a predecessor to the qCON) that too deep anaesthesia causes increased time to wake up, increased cardiac morbidities and increased time to wound healing. Therefore a qCON monitor is essential to ensure that too deep anaesthesia does not occur over prolonged periods.

Another important finding was done by Valencia and Henneberg (ESA 2013) which showed that peroperative anaesthesia affects the morphine consumption post operatively. A qCON larger than 55 for more than 5 % of the total anaesthesia time caused a morphine increase to 0. 23 mg/kg versus 0.17 mg/kg with the PCA pump.

Valencia JF, Henneberg SW
Peroperative depth of anaesthesia, assessed with the qCON may reduce the postoperative opioid

	Group High	Group Low
Number of patients	12	31
qCON > 55	> 5% of registration time	< 5% of registration time
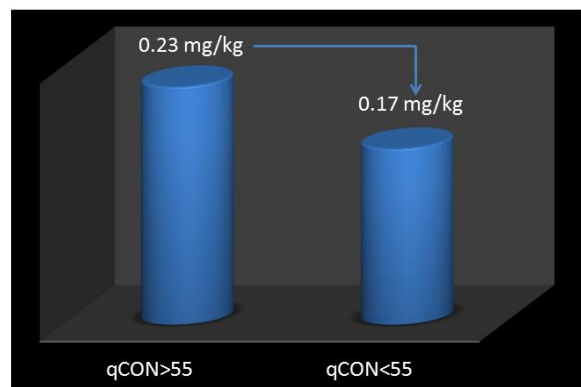
Publications

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