Competence in paediatric central venous lines placement

Reply from the authors

Editor—We are grateful for the opportunity to reply to Dr Baines on his interest in our evidence-based consensus.1

Dr Baines underlines the difficulty in finding a reasonable and objective method for defining minimal requirements for training central venous line placements. This was particularly difficult when we had to examine the literature related to training in central venous catheterization in children and neonates. Our final recommendation related to education in children and neonates stated that ‘CVAD education has to include: specific aspects of teaching and training with vascular access device insertion, insertion with and without ultrasound, near-infrared technology, and other technology aids for insertion’. The consensus of experts read all the articles related to specific topics and suggested to increase the minimum number of central venous lines insertion per year to a higher number than suggested by Breschan and colleagues.2 Their average previous experience in central venous cannulation using the landmark technique was 35 cases per year per operator. They also concluded that after appropriate training (previous experience with central venous line cannulation in children and around 15 ultrasound-guided cannulation of the brachiocephalic vein in children weighing <4.5 kg) this method could be applied also to neonates. Our message was different because we believe that a minimal experience of 70 central line cannulations per year is necessary and should be performed with ultrasound guidance whenever this is available.

According to the Royal College of Anaesthetist guidelines for the provision of anaesthetic services,3 there is a difference between consultants with a substantial commitment to paediatric anaesthesia and consultants appointed to posts with a designated subspeciality interest in paediatric anaesthesia in non-specialist centres. In the first case, the suggested number of central line cannulations is usually satisfied because anaesthetists are involved in highly specialized areas. In the latter case or even in those centres allowed to admit children, there should be at least one consultant with such competence in order to maintain the procedure as safe and effective. Even recent meta-analyses4 do not support routine use of ultrasound guidance in paediatric patients, but most of the studies included in those meta-analyses were biased by lack of experience in ultrasound by the operators.

Our recommendation did not rely on a ‘golden number’ of procedures performed per year and the suggested number was included just in the discussion portion of the paper. This commentary suggests that a minimal number of procedures per year is necessary and should be performed with ultrasound guidance whenever this is available.

Declaration of interest

None declared.

National Institute for Clinical Excellence guidance on measuring depth of anaesthesia: limitations of EEG-based technology

Editor—In their editorial on the NICE guidance on depth of anaesthesia (DOA) monitors, Pandit and Cook1 provide an excellent dissection of the process through which ‘The Institute’ arrived at this guidance, in the face of contradictions and a dearth of evidence.

However, in their section ‘On the probability of unconsciousness’, they are victims of a fundamental misconception themselves. From the fact, that at 1 minimum alveolar concentration (MAC), the probability of no motor response (immobility) is, by definition, 50% for all agents, they jump to the conclusion, that the output of a DOA monitor should also be the same at 1 MAC of any volatile agent.

3 Guidelines for the Provision of Anaesthetic Services. Chapter B: Paediatric Anaesthesia Services. The Royal College of Anaesthetists, revised April 22, 2010

doi:10.1093/bja/aet557