

## Hip fracture anaesthesia: the importance of inputs

Dear Editor,

We congratulate O'Donnell and colleagues on their recent systematic review and meta-analysis of perioperative outcomes for hip fracture patients<sup>1</sup>. They rightly point out that the diversity of measured outcomes, and the way in which they are measured (including nine different ways of measuring mortality!) hampers the synthesis of evidence. Their ongoing project to establish a core outcome set for hip fracture anaesthesia is therefore of utmost importance and we look forward to its publication in due course<sup>2</sup>.

A further obstacle to evidence synthesis is the diversity of inputs. In the case of O'Donnell's paper, anaesthesia is classified into modes as *general*, *regional* or *spinal* (as a subset of *regional*). As the authors point out, there are issues regarding the boundaries between these classifications, such as deciding how to classify combined general and regional anaesthesia, or spinal anaesthesia with sedation, which has been shown to frequently induce EEG changes consistent with surgical anaesthesia in hip fracture patients<sup>3</sup>. Furthermore, the authors identify that the *regional* classification contains numerous different techniques (spinal, epidural and various nerve blocks).

We would like to draw readers' attention to the diversity of anaesthetic practice within a given mode. For example, a close reading of the randomised controlled trials cited in O'Donnell's review reveals that Heidari and colleagues<sup>4</sup> used thiopentone, isoflurane, nitrous oxide, fentanyl and pancuronium in providing general anaesthesia, whereas Messina and colleagues<sup>5</sup> used propofol, sevoflurane, remifentanyl and cisatracurium. Entirely different combinations of drugs are classified as the same. Diverse practice is also seen in the context of spinal anaesthesia: Hoppenstein and colleagues<sup>6</sup> used 4mg of isobaric bupivacaine plus 25µg of fentanyl, de Visme and colleagues<sup>7</sup> used 15mg of isobaric bupivacaine, and Biboulet and colleagues<sup>8</sup> used incremental spinal anaesthesia with heavy bupivacaine in 2.5mg aliquots. Furthermore, although authors usually (but not always) specify the drugs that were used, they seldom specify in what way they were used, and state very little about the other aspects of anaesthetic technique.

Recently there has been increasing interest the importance of considering *how* anaesthesia for hip fracture repair is done, rather than taking a reductionist approach and simply reporting *what* is done<sup>9</sup>. Andrew Klein, editor-in-chief of *Anaesthesia* reflected on the findings of the ASAP-2 study<sup>10</sup> in his accompanying blog, drawing a conclusion inspired by the words sung by Ella Fitzgerald: 'it's not what you do, it's the way that you do it'<sup>11</sup>. Anaesthesia is a craft specialty and anaesthetists are rightly proud of their expertise. The reduction of their practice to a simple classification is to neglect the effect that such expertise may have.

There are a number of ways to approach this problem: one is to study it - we are currently involved in conducting an observational qualitative study of the practice of

anaesthesia for hip fracture repair, the results of which will elucidate *how* anaesthetists practice in this context and *why* they do so. The other is to emphasise the importance of a comprehensive description of anaesthetic technique in papers that report clinical research. Reproducibility is a key tenet of scientific writing; in order to apply the findings of research we need to know the inputs as well as the outcomes. At present, it seems, we don't know enough about either.

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