

## Reply from the authors

Editor—We thank Dr Kulkarni and colleagues for their interest in our study.<sup>1</sup> We totally agree with all their points favouring subclavian over internal jugular venous access. In addition, the subclavian and brachiocephalic veins are much less compressed by the approaching needle as seen very well via ultrasound. Furthermore, the catheter-associated infection rate may also be lower for subclavian venous catheters.<sup>2</sup> First, I want to mention that it is not always clear whether the subclavian or brachiocephalic vein has been punctured by the needle entrance when using the approach as described in our manuscript. However, eventually it has always been the brachiocephalic vein which has been cannulated.

Explaining our different technique:

The right internal jugular vein has been preferred to the left one and for the subclavian vein, the left is preferred when using the infraclavicular approach, presumably because most people are right-handed and thus positioning is more convenient. When we started the ultrasound-guided supraclavicular approach as described in our manuscript, we simply felt that it was more convenient to stand (right-handed) next to the child and to target then the left subclavian/brachiocephalic vein by using the ultrasound-guided supraclavicular approach. In addition, positioning by the side of the child enables an easier simultaneous airway management by another person. We also know that we can obtain a better ultrasound view of the longitudinal axis of the left brachiocephalic vein when compared with the right, at least in neonates. We are also convinced now that it is apparently easier to cannulate the left brachiocephalic vein than the right one when using a strict in-plane technique. This again mainly applies to small infants. We are more successful at the first puncture attempt in cannulating the left brachiocephalic vein [80 out of 100 (80%)] neonates <4.5 kg compared with the right [4 out of 10 (40%)]. We relate this to the anatomical differences between the two brachiocephalic veins. The left one runs initially nearly horizontal, whereas the right one takes a sharp caudal direction. This apparent superiority only applies to a strict in-plane technique targeting a longitudinally viewed brachiocephalic vein. The in-plane technique offers the advantage of viewing the advancement of the needle over a long distance and the surrounding structures.

We have not seen any unintentional decannulations on any side despite including babies of 1 kg. The tip of the catheter was placed in the superior cava close to the right atrial junction. The inserted length depended on the size of the patient and on the side which had been chosen. For a 3 kg baby, we would have inserted a 6 cm catheter from the left side. Our case series had mainly focused on the initial cannulation procedure. We do agree that decannulations are more likely to occur on the right side.

Having performed now around 200 cannulations by the use of this described method including 80 neonates from 0.7 to 3.5 kg, we have not noted any puncture complication

as yet despite cannulating the left brachiocephalic vein in the vast majority of cases.

## Declaration of interest

None declared.

C. Breschan\*

Klagenfurt, Austria

\*E-mail: breschan.ch@chello.at

- 1 Breschan C, Platzer M, Jost R, et al. Consecutive, prospective case series of a new method for ultrasound-guided supraclavicular approach to the brachiocephalic vein in children. *Br J Anaesth* 2011; **106**: 732–7
- 2 Breschan C, Platzer M, Jost R, et al. Comparison of catheter-related infection and tip colonization in central venous catheters in surgical neonates. *Anesthesiology* 2007; **107**: 946–53

doi:10.1093/bja/aer429

## Minimal mortality benefit with early surgery for high-risk fractured hip patients

Editor—Wiles and colleagues<sup>1</sup> are to be commended for their study which demonstrates the utility of a new scoring system for stratification of mortality risk for fractured hip patients. Their research not only provides evidence to support clinical decisions regarding the care of patients in this high-risk cohort but also urges a reminder of the necessity to rationalize management based on prognostic indicators.

Bearing these principles in mind, I am compelled to clarify their presentation of data relating to the association between timing of surgery and mortality risk. The authors state that ‘A delay in surgery of >48 h was associated with an increased mortality at 1 yr’ and ‘the high risk patient might benefit from . . . expeditious surgery’. This conclusion perpetuates a widely held misinterpretation of evidence which purports to show that high-risk fractured hip patients require early surgery. Consequently, anaesthetists may be pressed by surgical colleagues or clinical practice guideline auditors to urgently proceed with unstable or poorly prepared patients.

On inspection, the data from Wiles and colleagues actually show that early surgery is associated with a 25% reduction in mortality for low-risk patients. In contrast, for high-risk patients, the associated reduction in mortality of 6% fails to reach statistical significance.

These results are in accordance with a meta-analysis of 16 observational studies which examined the relationship between timing of surgery and mortality for fractured hip patients.<sup>2</sup> The authors found that ‘Early surgery is associated with an increased benefit in patients at low risk or those who are young’ and ‘In contrast, patients at high baseline risk and older patients will not benefit so much from early surgery in terms of one year outcome’.

Considering the humanitarian and analgesic benefits of expeditious surgery, unnecessary delays for fractured hip

patients should be avoided. However, anaesthetists should be mindful of the available evidence which shows that, in terms of mortality at 1 yr, young or low-risk patients suffer the greatest detriment as a result of delayed surgery. Mortality benefit should not be touted as a justification for proceeding with urgent surgical fixation for high-risk fractured hip patients.

## Declaration of interest

None declared.

J. A. French\*

Canberra, Australia

\*E-mail: jamesafrench@hotmail.com

- 1 Wiles MD, Moran CG, Sahota O, Moppett IK. Nottingham Hip Fracture Score as a predictor of one year mortality in patients undergoing surgical repair of fractured neck of femur. *Br J Anaesth* 2011; **106**: 501–4
- 2 Shiga T, Wajima Z, Ohe Y. Is operative delay associated with increased mortality of hip fracture patients? Systematic review, meta-analysis, and meta-regression. *Can J Anaesth* 2008; **55**: 146–54

doi:10.1093/bja/aer430

## Reply from the authors

Editor—I thank Dr French for his interest in our paper.<sup>1</sup> There is inconsistent evidence regarding the potential benefit or harm of early surgery in the high-risk patient. Our data are supported by others<sup>2–4</sup> who have found that early surgery appears to be of benefit overall for patients with fragility hip fracture with regard to long-term mortality. In our study, this difference was greatest for younger and fitter patients as defined by Nottingham Hip Fracture Score<sup>5</sup>  $\leq 4$ . We found no significant difference in 1 yr mortality for high-risk patients (NHFS >4) between early and late surgery, but we would caution against over-interpretation of these data. This was not a randomized controlled study, and the high-risk cohort will include patients who were delayed for medical reasons and those who were delayed for administrative reasons. Khan and colleagues' comprehensive, qualitative review of the literature until 2007 concluded that there were no adequate studies that suggested an increased risk from early operation. There are, however, data suggesting that length of hospital stay and morbidity are adversely affected by delay to surgery.<sup>6</sup> The benefit of operation as the best form of analgesia is well recognized. I agree with Dr French that 'mortality benefit should not be touted as a justification for proceeding with urgent surgical fixation for high risk fractured hip patients'. However, there are other humanitarian and potential healthcare cost benefits to operating sooner. At the risk of courting controversy, I would suggest that clinicians and healthcare providers should justify why surgery is delayed in any patient with hip fracture.

## Declaration of interest

I.K.M. is on the editorial board of the *British Journal of Anaesthesia*.

I. K. Moppett\*

(on behalf of the authors)

Nottingham, UK

\*E-mail: iain.moppett@nottingham.ac.uk

- 1 Wiles MD, Moran CG, Sahota O, Moppett IK. Nottingham Hip Fracture Score as a predictor of one year mortality in patients undergoing surgical repair of fractured neck of femur. *Br J Anaesth* 2011; **106**: 501–4
- 2 Khan SK, Kalra S, Khanna A, Thiruvengada MM, Parker MJ. Timing of surgery for hip fractures: a systematic review of 52 published studies involving 291,413 patients. *Injury* 2009; **40**: 692–7
- 3 Simunovic N, Devereaux PJ, Sprague S, et al. Effect of early surgery after hip fracture on mortality and complications: systematic review and meta-analysis. *Can Med Assoc J* 2010; **182**: 1609–16
- 4 Shiga T, Wajima Z, Ohe Y. Is operative delay associated with increased mortality of hip fracture patients? Systematic review, meta-analysis, and meta-regression. *Can J Anaesth* 2008; **55**: 146–54
- 5 Maxwell MJ, Moran CG, Moppett IK. Development and validation of a preoperative scoring system to predict 30 day mortality in patients undergoing hip fracture surgery. *Br J Anaesth* 2008; **101**: 511–7
- 6 Lefavre KA, Macadam SA, Davidson DJ, Gandhi R, Chan H, Broekhuysen HM. Length of stay, mortality, morbidity and delay to surgery in hip fractures. *J Bone Joint Surg Br* 2009; **91**: 922–7

doi:10.1093/bja/aer431

## Bibliometrics of anaesthesia researchers in the UK

Editor—I read with interest the article by Moppett and Hardman.<sup>1</sup> The authors are to be commended for their comprehensive approach to measuring bibliometrics of UK anaesthesia researchers. This article provides valuable information for benchmarking research performance of anaesthesia researchers. It also highlights the difficulties of determining citation profiles of researchers using scientific citation databases and which single-number citation indices may best measure the research performance of individual researchers.

Despite the increased use of bibliometrics for measuring the scientific performance of clinician scientists in recent years, there is still no consensus on which bibliometrics should be used for measuring research performance of individual researchers in medicine, and which researchers may be assessed successfully using bibliometrics.

Hirsch<sup>2</sup> first described the *h-index* for elite physicists—winners of the Nobel prize in physics and newly elected members of the National Academy of Sciences. However, the *h-index*—and its variations—may not always be applied with the same success to other scientific populations with