EDITORIAL

Randomised trials of total hip arthroplasty for fracture

IS OUR FAILURE TO DELIVER SYMPTOMATIC OF A WIDER SCRUTINY?

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Each year we see a larger burden of hip fractures with 100 000 such patients expected each year in the United Kingdom by 2020.1 The need to provide optimal treatment is clear.2-8 The National Institute for Health and Care Excellence (NICE) has provided guidance based upon the body of evidence that they reviewed at the time.9 NICE currently recommends total hip arthroplasty (THA) should be offered to patients with a displaced intracapsular fracture who are “(a) able to walk independently out of doors with no more than the use of a stick (b) not cognitively impaired and (c) medically fit for anaesthesia and the procedure.” Despite the simplicity and clarity in the guidance, less than a third of eligible patients have such surgery.10,11 In addition, the fact that 40% of patients who undergo THA do not satisfy the NICE criteria implies a lack of knowledge, or lack of confidence in the recommendation.11

Although NICE state that the provision of THA is a priority for hip fracture research, in this issue, Griffin et al12 report failure to recruit into a feasibility study comparing dual mobility acetabular components with THA for patients with a displaced intracapsular fracture. Although the study comes from a research ready unit using an elegant consenting model, it suggests randomised trials of THA for hip fracture cannot be delivered. In the accompanying trial process evaluation13 the authors explored barriers and facilitators for successful delivery of such a trial with detailed interviews of study surgeons and additional survey information from members of the British Orthopaedic Trauma Society.

So why can’t we recruit?

Most United Kingdom Trauma and Orthopaedic research teams don’t offer out of hours and weekend availability, and trials designed for prospective consent, such as HEALTH,14 are likely to suffer. The World Hip Trauma Evaluation (WHITE) trials series have largely overcome these barriers and WHITE 3: HEMI,15 studying two types of hemiarthroplasty, was able to recruit eight months ahead of schedule, using a trainee collaborative. The problem may lie with THA.

In common with other clinical trials in surgery, the trial evaluation reports that some surgeons feel uncomfortable admitting to their patients they don’t know which treatment is best; others are reluctant to include their patients in trials - they recognise corporate equipoise but have a clear personal view of the best treatment. Some studies have navigated these concerns by the use an expertise-based randomised controlled trial design. This allocates patients to surgeons with expertise in a particular arm of the trial and reduces concerns about differential performance. It may also reduce crossover from one treatment arm to another.14

In the Griffin et al12 THA trial, patient preference was a factor, but surgeon-specific barriers dominated the difficulty in recruitment. An apparent lack of surgical expertise in THA was cited as the most common barrier to recruitment and a surgeons’ confidence to participate was closely linked to the frequency with which they undertook hip arthroplasty surgery. Although less than 10% of surgeons reported concerns about “dislocation risk” or “higher complication risk”, evidence suggests complication rates may be higher in surgeons performing fewer than 35 hip arthroplasties per year.16 Surgeons’ treatment preferences are strongly linked to familiarity and external scrutiny of outcomes is perhaps likely to compound such views.17

However, such a position is in contrast with our systems for training and accreditation. National guidance specifies clear criteria required for the completion of training in the United Kingdom and Ireland – THA is a core indicative procedure which trainees must perform at least 40 times as lead surgeon; they also must demonstrate that they can perform THA unsupervised and deal with any potential complications. To service these curricular requirements trainers are increasingly monitored by...
training programmes on the volume of cases their trainees perform. So we need to question this – how lasting is the effect of doing 40 THAs by ST8 if you then become an upper limb surgeon?

There is little evidence for 40 cases delivering competence, but would increasing the threshold improve capacity to perform THA for trauma, or would it result in wasted training for specialists that ultimately don’t perform it? Different skills are needed the cover the breadth of trauma our units receive and similar arguments would be just as relevant with hand trauma or distal femoral fracture.

These concerns are not limited to the delivery of THA trials for trauma, but may affect routine trauma practice. A recent analysis of The National Hip Fracture Database data offers some insight into the way we approach THA and perhaps better reflects the beliefs of the orthopaedic community at large. Our collective practice is at odds with NICE. Although age is not a factor in NICE guidance, it is the most important factor in our decisions around who gets a THA, age 76 being a threshold, and we commonly make decisions at a different mobility threshold to that recommended by NICE – use or non-use of a stick. More uncomfortable is the significant association of provider hospital predicting likelihood of THA, with a range of provision from 0% to 60% of eligible patients, with wide regional differences: confirmation of a postcode lottery. Male patients, those with social deprivation and patients admitted over the weekend are less likely to receive THA. In England, the NHS offers additional payment for hospitals when a case meets agreed standards and has surgery within 36 hours, and its influence on THA at weekends, when the expertise may not be available, has not been studied.

Contemporary high-quality research requires input from large committed teams who need to overcome significant governance, ethical and practical obstacles. As clinicians, we need to navigate the conflicting issues of surgeon-level volumes and outcomes, trainee competencies, timely surgery and its payment incentives. The accompanying trial report indicates that research in the field of THA for trauma is currently untenable in some regions/countries. Successful delivery of THA trauma trials, and the provision of trauma THA in general, mandate strategic planning of training, accreditation, on call rotas, a potential emergency presence for THA surgeons and, crucially, flexibility.

References