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CORR Insights®: Which Fixation Device is Preferred for Surgical Treatment of Intertrochanteric Hip Fractures in the United States? A Survey of Orthopaedic Surgeons

Kodali Siva R. K. Prasad MD

Where Are We Now?

Although the sliding hip screw was the gold standard for treating intertrochanteric hip

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fractures, the development of cephalomedullary nails has ignited a debate regarding how best to treat these fractures. The popularity of cephalomedullary nails derives from the belief that they are less invasive and biomechanically superior to sliding hip screws. This perception has gained momentum despite the lack of clear clinical evidence of superiority. Recent research [1, 2] suggests that cephalomedullary nails do not result in fewer complications, lower revision rates, improved functional outcomes, or decreased mortality when used to treat stable intertrochanteric fractures. Short nails and long nails each have their proponents, again with no substantial evidence of superiority either way.

The current surgical practice is characterized by wide geographical variations in North America, Conti-

nental Europe, United Kingdom, and rest of the world. This is interesting, because in stable, two-part fractures or equivalent A1 AO/OTA fractures, failure of fixation with sliding hip screw is unusual.

How “unstable” a fracture needs to be before it might benefit from a cephalomedullary nail remains unknown, and the common classifications—including the AO/OTA classification—are not well validated with respect to this important endpoint. Yet we all agree that fracture stability (or the lack thereof) should help guide implant selection. This gap in our knowledge, perhaps more than any other, is behind the current controversy.

The web-based survey by Niu et al. enlists a broad selection of American Academy of Orthopaedic Surgeons members from North America for their surgical perceptions and estimated practices pertaining to stable intertrochanteric fractures of femur. A total of 3786 of 10,321 (37%) invited surgeons completed the survey. The fact

K. S. R. K. Prasad MD (✉)

Prince Charles Hospital, Gurnos Estate,
Merthyr Tydfil, Wales CF47 9DT, UK
e-mail: ambakrishna1950@yahoo.co.uk

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that most surgeons in this survey expressed a preference for cephalomedullary nails does not make that the better approach, and in my opinion, that practice pattern, at least where stable fractures are concerned, is at odds with the best evidence on this topic.

Where Do We Need To Go?

Despite a lack of persuasive evidence that cephalomedullary nails are more effective than sliding hip screws, more surgeons are using cephalomedullary nails. According to the survey by Niu and colleagues, the ease of use of intramedullary nails was the most common reason for this increase. However, surgeons are ignoring the steep learning curve associated with intramedullary nails. Additionally, as orthopaedic trainees receive less exposure to sliding hip screws, this may perpetuate the preferential use of cephalomedullary nails with important implications for evidence-based best practice, resident education, and

healthcare costs. I am not convinced that the practice is completely dissociated from socioeconomic realities of surgical practice throughout the world; specifically, in many health-care systems, including that of the United States, surgeons earn more by inserting a cephalomedullary nail than they can by fixing a hip fracture with a sliding hip screw. We need more than surveys of practice patterns; we need more definitive trials, and enough of them to meta-analyze so that small- and modest-sized clinical differences between the two approaches can be detected, if they are present.

How Do We Get There?

We need evidence-based guidance on this topic, which should include multicenter, randomized controlled prospective studies involving institutions with validated outcome measures and adequate followup between (1) sliding hip screws and short cephalomedullary nails, (2) sliding hip screws

and long cephalomedullary nails, and (3) short and long cephalomedullary nails for stable and unstable intertrochanteric fractures separately. Large studies, and eventually further meta-analyses of Level I evidence, will help us get the answers we need for both stable and unstable fractures. Large meta-analyses could pave the way for the crystallization of surgical algorithms, ultimately guiding implant selection for different types of intertrochanteric fractures, and potentially facilitating the needed cost and cost-benefit studies.

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