Letter to the Editor

Intramedullary Nails Result in More Reoperations Than Sliding Hip Screws in Two-part Intertrochanteric Fractures

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To the Editor:

We are interested in the article, “Intramedullary Nails Result in More Reoperations Than Sliding Hip Screws in Two-part Intertrochanteric Fractures” by Matre et al. [4]. The authors concluded that sliding hip screws likely are the preferred implant for simple two-part intertrochanteric fractures. The conclusion is useful to our clinical work. The Norwegian Hip Fracture Register (NHFR) is an outstanding management system for analysis and statistics involving hip fracture studies. Valuable information can be obtained from intertrochanteric fractures through this rich database. Based on large numbers of surgical procedures, the conclusions should be reliable and valuable. We benefitted from previous articles related to the NHFR [1, 4, 5] and we thank the study authors for their work.

Currently, there is no consensus regarding the best implant for different intertrochanteric fractures. However, there is a trend toward more intramedullary nailing in intertrochanteric fractures. Certainly, there are a few

advantages of intramedullary nails. At our institution, treatment of intertrochanteric fractures with intramedullary nails is more prevalent than the sliding hip screw system. We used intramedullary nails to treat more than 1000 cases of pertrochanteric and intertrochanteric fractures in the recent

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Fig. 1 The proximal end of the nail is longer than the height of the greater trochanter. The proximal end of the nail stimulates the gluteus medius.

Fig. 2A–B The distal nail tip impinges the medial cortex of the femur (A). The lateral cortex of the greater trochanter was damaged (B).

years. We are glad to have the opportunity to discuss some of our opinions regarding the ideal implant with the authors.

The study authors found that the reoperation rate for patients treated with intramedullary nails was higher than the sliding hip screw group, suggesting that the sliding hip screw was the preferred implant for simple intertrochanteric fractures. Yet, the authors found that patients in the sliding hip screw group reported more problems regarding their mobility during normal activities. We believe the evidence that supports the current study's conclusions is inadequate, and failed to demonstrate that sliding hip screw is the preferred implant.

The study authors did not discuss the reasons for implant removal. In practice, we have encountered problems resulting in the need for implant removal; for example, patients with stainless steel implants only have difficulty undergoing MR image examinations in the hip and pelvis area because the implant results in image artifact on the MR scan. We wanted to know whether the authors removed implants to facilitate MR imaging. If so, did they experience any complications?

The authors found similar pain scores between the two implant groups during followup. However, the implant-related pain was higher in the intramedullary nails group compared with the sliding hip screw group. How did the authors distinguish the difference in pain? What was the reason for pain? Did the pain subside after the implant was removed? The authors did not discuss these questions.

We believe patients feel implant-related pain for three reasons. First, the short intramedullary nails without the forward curve do not completely match to the anterior bow of the femur, especially in older Asian women with more anterior femoral bowing. In some of these patients, the distal tip of the nail will impinge the anterior cortex of the femur, causing anteolateral thigh pain. Second, the proximal end of the nail is longer than the height of the greater trochanter. The proximal end irritates the gluteus medius and can cause hip pain [Fig. 1]. Third, an insertion point that is too lateral from the trochanteric tip will cause added pressure on the lateral cortex of the greater trochanter, and the lateral wall may fracture [2, 6]. It also is possible that the nail tip can impinge on the medial cortex of the femur [Fig. 2]. If the entrance of nail is too posterior, impingement against the anterior femoral cortex can be serious, potentially causing periimplant fractures. In addition, nail insertion depth can affect the length of the exposed proximal end. We believe the selection of suitable implants for different patients, as well as the insertion technique of the nail, are key factors for avoiding implant-related pain. Modifications to instrument systems may also help decrease the incidence of pain of implant [3].

We thank the study authors for sharing their conclusions. Although we agree that sliding hip screws have lower costs and a shorter learning curve compared with intramedullary nails, we believe the evidence fails to demonstrate the superior implant. Ultimately, the choice

comes down to the orthopaedic surgeon's experiences and preferred techniques in the operating room.

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