Letters to the Editor

Sir

In their article on trochanteric fractures, Andersson et al. (1984) discussed the unacceptably high frequency of complications following the McLaughlin and Ender types of internal fixation, the Ender technique giving more technical problems. However, these two groups were not statistically comparable and the conclusions of the authors are not reliable. In fact, they found that the initial nail position in the McLaughlin group was not acceptable in 20 per cent and in the Ender group in 59 per cent. This means that the technical performances of the two methods were quite different is this respect. We are of the opinion that to compare the two methods the techniques must be performed with reasonably equal dexterity, at least concerning the positioning of the nails in the femoral head. The conclusion which should be drawn is that those who used the Ender method have not learned how to perform it properly; it can be carried out with far fewer complications (Böhler 1972, Kuderna et al. 1976, Ender 1978, Russin & Sonni 1980, Zain Elabdien 1984).

The paper also describes a high frequency of perforations of the head with Ender nails. This is also related to faulty technique; very few perforations occur in materials that have been treated according to the rules.

A third, very important parameter to take into account is the mortality rate in the different series. The nail plate usually requires about 1 hour longer operation time than the Ender method and it also requires far more blood transfusions. This may cause a more serious postoperative period in the nail plate group which might give a different end result. We believe that all these factors have to be taken into consideration in the discussion (Kuderna et al. 1976, Hall & Ainscow 1981).

In our opinion the recommendations made by Andersson and his co-workers are misleading.

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Göran Karlström

References

Andersson, S., Herrlin, K., Wallöe, A. & Lidgren, L. (1984) Complications after trochanteric fractures. A comparison between Ender and nail-plate osteosynthesis. *Acta Orthop. Scand.* **55**, 187–191.

Böhler, J. (1972) Percutane Trochanterosteotomie bei der Nagelung intertrochanterer Oberschenkelbrüche. *Monatsschr. Unfallheilkd.* **75**, 480–484.

Ender, H. G. (1978) Treatment of pertrochanteric and subtrochanteric fractures of the femur with Ender pins. In: *The Hip. Proceedings of the Sixth Open Scientific Meeting of the Hip Society*, pp. 187–206. C. V. Mosby, St. Louis.

Hall, G. & Ainscow, D. A. P. (1981) Comparison of nail plate fixation and Ender's nailing for intertrochanteric fractures. *J. Bone Joint Surg.* **63**-B, 24–28.

Kuderna, H., Böhler, N. & Collon, D. J. (1976) Treatment of intertrochanteric and subtrochanteric fractures of the hip by the Ender method. *J. Bone Joint Surg.* **58**-A, 604–611.

Russin, L. A. & Sonni, A. (1980) Treatment of intertrochanteric and subtrochanteric fractures of the femur by the Ender method. *clin. Orthop.* **148**, 203–212.

Zain Elabdien, B. S. (1984) Studies on hip fractures and Ender nailing. *Acta Univ. Ups.* **478.**

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"The truth in Berlin and Jena
is but a poor joke in Heidelberg"
(Gustaf Fröding, a Swedish poet)

Sir

If a surgeon gets a poor result using a particular method, the reasons could be that the method is poor, that it is used for the wrong indication(s), and/or that it is technically not applied properly.

One of the purposes of our study was to analyse the technical difficulties encountered with Ender nailing and the McLaughlin nail and plate method. We totally agree with Olerud & Karlström (1984) that our radiographic comparison showed a difference between the two methods. However, it is by no means certain that this was due to a "faulty technique" in the use of Ender nailing.

At three of the hospitals studied (Landskrona, Trelleborg and Ystad), the operations were performed by senior orthopaedic surgeons with long experience (more than 10 years of surgical training and more than 50 Ender nailings). Their results were not better than those achieved at the teaching hospital in Lund where the method was introduced during the period of the investigation and spread among many hands (Andersson et al. 1984). We could thus not confirm the importance of the extremely long learning time reported by Nilsson (1984); it is only remotely possible that most of the participating surgeons had not reached the point on the learning curve to qualify as "proper" Ender nail-inserters. We are sure that they, well aware of the study going on, tried to perform both procedures as well as possible.

However, the number of complications in the Ender nail series (Zain Elabdien 1984) from the department of Olerud & Karlström, quoted in their letter, was the same as in our study but the conclusions were different. Their study reported 1 year of Ender nailing cases followed for 1 year (127 cases); subtrochanteric fractures, also being intertrochanteric (12 cases), were excluded but presented separately. The frequency of complications within 3 months was based on all patients, including those who died. The authors reported important technical complications in 16 cases. However, if all intertrochanteric fractures are included, the number rises to 21 cases. The failure rate was 18 per cent in those 121 patients who survived more than 3 months. The conclusion in the Uppsala study was that with an "appropriate technique Ender nailing was a suitable method which to a large extent gave favourable results."

In our study there were 17 per cent reoperations in the Ender group and 10 per cent in the nail-plate group, two-thirds being minor, mainly removal of the nails. The conclusion from Lund was that "both methods had an unacceptably high frequency of complications, radiographically in one-third and reoperations in one-tenth".

"A third, very important parameter" was the mortality. The Uppsala study did not show that Ender nailing reduced the mortality compared to other methods during the same period. Many studies have reported decreased mortality in hip fracture patients during the last decade regardless of the type of operation (Kenzora et al. 1984); several factors may have contributed, e.g. improved pre, per- and postoperative care, early mobilization etc.

As patients with hip fracture occupy one fourth of the orthopaedic beds in Scandinavia, their problems should constitute a large part of our scientific life. We therefore welcome the discussion initiated by Olerud & Karlström.

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References

Andersson, S., Herrlin, K., Wallöe, A. & Lidgren, L. (1984) Complications after trochanteric fractures. A comparison between Ender and nail-plate osteosynthesis. *Acta Orthop. Scand.* **55**, 187–191.

Kenzora, J. E., McCarthy, R. E., Lowell, J. D. & Sledge, C. B. (1984) Hip fracture mortality. *Clin. Orthop.* **186**, 45–56.

Nilsson, M. H. (1984) Trochanteric fractures. Treatment by Ender intramedullary fixation. Observed and predicted incidence in the Stockholm area. Thesis. Karolinska Institute, Stockholm.

Olerud, S. & Karlström, G. (1984) Letter to the Editor. *Acta Orthop. Scand.* **55**, 581.

Zain Elabdien, B. S. (1984) Studies on hip fractures and Ender nailing. *Acta Univ. Ups.* **478**.