

## Osteoporotic Pelvic Fractures

by PD Dr. med. Ludwig Oberkircher, Prof. Dr. med. Steffen Ruchholtz, Prof. Dr. med. Dr. h. c. Pol Maria Rommens, Prof. Dr. med. Alexander Hofmann, Prof. Dr. med. Benjamin Bücking, Prof. Dr. med. Antonio Krüger in issue 5/2018

### CT-Guided Pelvic Osteosynthesis

The authors deserve thanks for addressing pelvic fractures in elderly people, which is an underestimated problem, although the associated immobility results in substantial mortality and morbidity. They were correct to point out the need for computed tomography (CT) or magnetic resonance imaging for diagnostic purposes (1). They did, however, omit to point out the importance of CT guidance for osteosynthesis. As a result, the erroneous assumption may arise that conservative treatment is the method of choice—in spite of the fact that they emphasized the need for rapid mobilization in posterior pelvic ring fractures. If patients are to be mobilized early, one should not wait for 1–2 weeks and inflict strong analgesics on elderly people. 27 years ago, the first description of CT-guided screw fixation of an iliosacral fracture was reported (2). In 2014, I published the largest series of sacral osteosynthesis procedures to date, in which primarily very old persons received minimally invasive treatment in the CT room under local anesthesia without relevant complications (3). General anesthesia with the associated high risk of postoperative cognitive dysfunction is no longer required for screw fixation. Doctors no longer have to decide between Scylla (operating room) and Charybdis (potentially fatal complications as a result of waiting).

Furthermore, it is beyond me why the authors of a CME article, which supposedly reflects state of the art approaches, mention the application of cement to prevent loosening of the screws. There are no valid studies that cement “augmentation” will prevent loosening of the screws (4). Immediate pain reduction is the result of screw fixation itself, without any risk of complications.

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### In Reply:

There are currently no guideline recommendations for the correct timing of surgical treatment in fractures of the posterior pelvic ring, as discussed in the article. To this end, large prospective

studies should be conducted. Our treatment algorithm (1) was developed on the basis of our clinical experience and was intended to be merely a suggestion. Where conservative treatment fails, “early” minimally invasive treatment is certainly the preferred option. CT-guided osteosynthesis is obviously important in this setting. As our main focus was on raising awareness of pelvic fractures in elderly people, as such fractures are often underestimated, the restrictions on word count did not permit us to discuss all operative approaches in detail. CT-guided or navigated osteosynthesis is used in many hospitals for iliosacral fixation; it has also been described in studies. A recently published multicenter study did not show any advantage relating to the position of the screw (2). Cement augmentation of the iliosacral joint screw should not be confused with sacroplasty, which consists of cement application only into the area of the fracture. If the screw in the sacral vertebra is augmented with cement, the cement at the distal end of the screw must not be applied into the fracture gap, as this would hamper fracture healing. A prospective study showed good clinical and radiological results for the cement augmented iliosacral joint screw (3). The biomechanical study discussed in the contribution by Reuther showed no substantial advantage of cement augmentation for a load of only 10 000 cycles. However, we already confirmed a significant advantage for cement augmentation as regards primary stability (4). Prospective randomized studies of this are lacking. The recommendations in the article can therefore be based only on the existing literature with low-level evidence and on the authors’ clinical experience—as we pointed out several times on our article.

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#### Conflict of interest statement

All authors declare that no conflict of interest exists.