In-out-in technique for acetabular fractures: is it really good?

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Received: 7 November 2012 / Accepted: 17 November 2012 / Published online: 4 December 2012
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We have read the article “A safe technique of anterior column lag screw fixation in acetabular fractures” by Sen et al. with great interest [1]. We congratulate the authors for describing such a novel technique and obtaining excellent results in their patients. The in-out-in technique looks promising in terms of no requirement for an image and avoiding articular penetration during screw insertion. However we have some questions and concerns about this technique which is stopping us from using it in our patients.

The iliofemoral approach was used in the majority of cases and the lateral femoral cutaneous nerve was preserved and retracted medially. This nerve is commonly damaged in this approach [2]. In how many cases of their series were the authors able to preserve it? In the current scenario where there is ongoing debate regarding optimal fixation of a transverse fracture with one or two plate, the author is using only two screws with plate and sometimes without plate. We feel that screws alone are not sufficient and they should be supplemented with plate.

The authors noted that two screws may be placed in the anterior column through this safe corridor, if room is available. With the anatomical constraints of the bony thickness of the anterior column, it is difficult to insert two screws. Hong et al. established that the transverse section of the anterior column is triangular in shape and the path for the lag screw placement is 10.5 ± 0.8 mm in diameter. They recommended that it is possible to safely insert only one 6.5-mm lag screw in the anterior acetabular column [3]. Chen et al. suggested that the anterior column in males would accommodate a 6.5-mm lag screw very well, but this does not apply to all females. The use of a 6.5-mm screw in females might violate the bony margin and

should only be used after careful evaluation of the dimensions of the anterior column. Inserting two screws in such a narrow space is indeed technically difficult [4]. Two screws alone were used in six patients out of whom two were females. We have doubts about the hold of such screws. Would the authors elaborate whether they inserted 4.5-mm or 6-mm screws in such cases? In one of the cases three screws were inserted. The combined diameter of the three screws would be more than the diameter of the anterior column (10.5 ± 0.8 mm). It is technically not possible to insert three screws in the anterior column. How the authors managed to do this is beyond our understanding.

What was the post-op protocol following this technique? Does this protocol differ depending upon whether fixation was with screw alone or with screw and plate?

Safe and successful application of this technique is critically dependent upon the surgeon's ability to insert the guide wire and drill in an accurate direction. Multiple attempts at drill bit or screw insertion in such a narrow corridor of cancellous bone may create a void and will affect the purchase of the final screws. To achieve reduction and fixation of the acetabular fracture using screws, the corridors of bone through which these screws pass must contain sufficient cancellous and cortical bone to allow safe passage of the necessary drill bits and screws, and to obtain sufficient fixation to achieve adequate acetabular stability [5].

The anterior superior iliac spine was osteotomised and after finishing the surgery was fixed back to the Ilium with two small fragment screws. However Fig. 5b shows that it was fixed with only one screw.

Although the current series comprised predominately young patients, who have a good bone stock, do Sen et al. recommend this technique in osteoporotic patients?

We once again congratulate the authors for describing this technique and the excellent results they have obtained.

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