Letter to the Editor

Blocking screws: an adjunct to retrograde nailing for distal femoral shaft fractures

To the Editor:
We read with great interest the article by Gavaskar and Chowdary.1

1. What is the exact location of blocking screws, as being too close to the fracture site may risk propagation of the fracture line during nail insertion? Furthermore, there may be a risk of injuring the patellofemoral joint and neurovascular bundle while placing the blocking screws in an anteroposterior direction.2,3 Does the screw location differ depending on the pattern of the fracture? What was the authors’ view regarding this issue?

2. The authors stated that “the site for screw placement was identified with the nail in situ”. We believe that it is better to insert the blocking screws prior to reaming, and in cases of unreamed nailing, prior to nail insertion. This can provide adequate contact between the nail and the screw. The blocking screws may not function if inserted after reaming as the path of the nail is already set. What is the authors’ view regarding this concern?

3. It is technically challenging to insert the blocking screws in a precise location, for which the use of fluoroscopy is necessary. Did the authors measure the intra-operative radiation exposure time?

4. What were the absolute indications and contraindications of this procedure, as well as limitations of the study?

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Authors’ reply

1. Use of blocking screws requires intact cortices, and fracture line propagation (if anticipated) can be prevented by clamping during screw insertion or additional screw fixation before nail insertion. Damages to the patellofemoral joint and neurovascular bundle are potential complications, which can be avoided by proper patient (fracture) selection and a focused surgical technique. The location of the blocking screws differs depending on fracture configuration. Conventionally the screw is inserted in the distal fragment but can be inserted in the proximal segment if the fracture is too distal. The direction of the screw also depends on the plane of the deformity and is usually placed on its concave side.1

2. Contrary to the readers’ view, not all fractures require blocking screws. Whether blocking screws are used to correct deformity is usually determined after nail or reamer insertion. To
serve its purpose, the blocking screw needs to be in close contact with the nail and serve as an additional cortex. Hence the location can be precisely determined only after the knowing the original nail trajectory, so that it can be shifted according to the deformity.2

3. The use of blocking screws requires a precise surgical technique to make it work and also to prevent fractures and thus fluoroscopy is necessary. Regrettably, we did not measure the radiation exposure.

4. This technique was used only in type-A fractures of the distal femur. The only absolute indication was the presence of a residual deformity (in the sagittal or coronal plane) after nail insertion. Blocking screws require intact cortices (an absolute pre-requisite). There is no absolute contraindication, but it is prudent to use the technique in metaphyseal fractures (which are not too distal) and in C1 fractures.

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