



RE: Delayed Presentation of Ipsilateral Femoral Neck Fractures in Diaphyseal Femur Fractures, Gibson, W.K., Hubbard, J., JSOA 14(2):77–81, 2005

Dear Editor:

I read with interest the article by Gibson and Hubbard (*JSOA*, 14(2):77–81, 2005) in which an example of a “clandestine” femoral neck fracture is described. However, I am concerned with regards to Figure 5. In this image as well as in the description within the article, no suggestion of a femoral neck fracture is purported. In my opinion, a 25° angulated, although nondisplaced, fracture with apparent cortical disruption is noted.

Clearly, occult fractures occur, nondisplaced fractures are missed, and the possibility of iatrogenic femoral neck fractures cannot be excluded. Nevertheless, in this particular case, the “clandestine” fracture was not only present, but evident and was missed both by radiology and orthopedics.

I look forward to the authors’ comments.

*David F. Beigler, MD
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In Reply

Dear Editor:

Thank you for the opportunity to respond to the letter from Dr. Beigler regarding Figure 5 in “Delayed Presentation of Ipsilateral Femoral Neck Fractures in Diaphyseal Femur Fractures” (*JSOA*, 14(2):77–81, 2005). I am pleased the article has been well received and stimulated discussion.

Dr. Beigler’s opinion is that Figure 5 demonstrates “a 25° angulated, although nondisplaced, fracture with apparent cortical disruption.” He also opines “in this particular case, the ‘clandestine’ fracture was not only present but evident and was missed both by radiology and orthopedics.”

In response, Figure 5 is a representative image from the second CT scan of the hip in this patient. The first CT scan at 10-mm intervals was done prior to operative stabilization of the diaphyseal femur fracture and did not reveal a femoral neck fracture. A second CT scan at 3-mm intervals was done to evaluate the acetabulum after operative stabilization of the diaphyseal femur fracture.

A fracture of the femoral neck was not apparent to the radiologist or the orthopaedic surgeon. If the second CT scan had revealed a femoral neck fracture, the fracture would still be considered clandestine by definition. The fracture was present but not detectable by preoperative or intraoperative studies and not related to antegrade rodding or surgical technique. It was not “missed” because it was not detectable.

I have presented this case at an AO fracture course, Virginia Orthopaedic Society annual meeting, and Southern Orthopaedic Association annual meeting and this is the first time someone has indicated that a femoral neck fracture is evident on the CT scans. The manuscript and photographs of the images were reviewed prior to publication and there were no comments concerning evidence of a femoral neck fracture on the CT scans.

First, we must understand that Figure 5 is a representative image that has been reproduced by photograph of the original study and copied for printing and publication. It does not stand alone, nor would it be considered diagnostic.

Second, I have asked a board-certified orthopaedic surgeon and a board-certified radiologist to review the original CT scans in a blinded fashion. Neither of these physicians had read the article or previously reviewed the studies. Neither of these physicians described a femoral neck fracture on either study.

Finally, I have reviewed the images and compared the contralateral hip, which is imaged on the initial CT scan. I am unable to detect any difference in appearance of the femoral neck, and the femoral anteversion or angulation is symmetrical. An angulated fracture with cortical disruption is not evident. In retrospect, there may be suspicious areas, but there is no apparent fracture.

In summary, a fracture is present, not detectable by the preoperative or intraoperative studies, and is a clandestine fracture. If the second CT had revealed the fracture, it would still be assigned to the clandestine group by the definition in the Materials and Methods section. I appreciate Dr. Beigler’s thoughtful reading of the article and observation. Thank you for the opportunity to respond. Hopefully, this answers any questions remaining.

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