Editorial

3D Analysis of Polyaxial Volar Locking Plate Position for Distal Radius Fracture

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There are variations in distal radius fracture: dorsal (Colles) extra-articular fracture; volar (Smith) extra-articular fracture; intra-articular fracture with either dorsal simple fragment (dorsal Barton) or volar fragment (volar Barton); volar or dorsal rim fracture; combination of extra-articular and intraarticular fracture (i.e., Barton-Smith); and comminuted complex intra-articular fracture. To reduce and fix the distal radius fracture, many techniques have been developed, such as bridge and nonbridge type external fixator, plate, intramedullary nail, or just K-wire fixation. Starting from the fixed angle (monoaxial) volar locking plate (VLP) in 2004 by Dr. Jorge Orbay,[1] the plate design of the VLP in the market has varied, such as the polyaxial locking plate or rim fixation plate. Recent mainstream of the treatments of distal radius fracture is the volar locking plating for all types of fractures.

The polyaxial locking plate has an advantage to fix the fragment(s) to the VLP in multidirectional angles with locking screw(s). Successful reduction of the distal radius fragment can be achieved as long as the surgeon has enough knowledge about the volar surface of the distal radius including variations and straightforward selection of the plating position on the volar radius. Watershed line that was also advocated by Orbay[1] is considered important to fix the VLP in a safe manner.

This issue includes the "Special Reviews" of "3D analysis of polyaxial VLP position for distal radius fracture" described by Drs. Eda, Kohyama, Ikumi, Ishii, Yamazaki, and Yoshii. This review describes 3D computer simulation of plate position of the VLP on the volar surface of the radius without screw penetration onto the radiocarpal joint surface. They analyze three variations of screw angles in polyaxial plate holes. They conclude that the most distal position of the polyaxial VLP differs depending on the screw insertion angle and become more proximal as the transverse diameter increases. Interesting papers on wrist-related topics, such as radius and ulna nonunion, hemiresection interposition arthroplasty of the distal radioulnar joint, and total wrist arthroplasty; surveys and meta-analysis; and interesting case reports and procedures are also included in this issue. Don't miss it.

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Conflict of Interest
None declared.

References

1 Orbay J, Badia A, Khoury RK, Gonzalez E, Indriago I. Volar fixed-angle fixation of distal radius fractures: the DVR plate. Tech Hand Up Extrem Surg 2004;8(03):142–148

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