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Invited Commentary

Commentary on: A novel hybrid fixation versus dual plating for both-bone forearm fractures in older children: A prospective comparative study

Dear Editor,

We would like to thank Zhu et al. for their study on comparing the clinical outcomes of hybrid fixation using elastic stable intramedullary nailing (ESIN) for the ulna and plate screw fixation for the radius in the Hybrid group, with dual plating fixation in the comparison group for children between 10 and 16 years of age with forearm fracture of both bones [1].

Forearm fractures are among the most common fractures in adolescents. It is the first time that a prospective review has been conducted on children between 10 and 16 years with both bone forearm fractures managed surgically to define a treatment with the least morbidity. This paper showed that hybrid fixation using open reduction and internal fixation with a plate-and-screw construct on the radius, and closed reduction and elastic intramedullary fixation of the ulna, to be acceptable in treating both-bone diaphyseal forearm fractures in skeletally immature patients aged 10–16 years old. The small incisions and reduced cost are the characteristics of this hybrid fixation. Behnke et al. [2] compared open reduction and internal fixation using dual plating to a hybrid fixation construct with intramedullary nailing of the ulna and plate fixation of the radius in both-bone forearm fractures. They found hybrid fixation using open reduction and internal fixation with a plate-and-screw construct on the radius and closed (or minimally-open) reduction and interlocked intramedullary fixation of the ulna to be acceptable in treating both-bone diaphyseal forearm fractures in skeletally mature patients. Feng et al. [3] indicated that hybrid fixation is superior in intraoperative fluoroscopy time, duration of postoperative immobilization, delayed union rate of ulna and average time of bone union. Therefore, hybrid fixation should be accepted as an alternative treatment for both-bone forearm fractures in children between 10 and 16 years of age. The present study showed no significant difference in time to union between the hybrid group and dual plating group, indicating that the hybrid fixation could provide sufficient stability for old children between 10 and 16 years old. Additionally, no significant difference was found in complications between the two groups. Several limitations of this study should be noted. First, the sample sizes and the retrospective design are obvious weaknesses which may limit the evidence level of the study. Second, the short-term follow-up may lead to underestimation of complications. Third, the fracture patterns, degree of soft tissue injuries, and surgeon experience with implants can be inherent selection biases which may influence outcomes. Well-designed multicenter randomized controlled trials with large sample sizes are required to truly define the role of hybrid fixation.

Conflicts of interest

None.

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