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Letter to Editor concerning the published paper in JBJS by Samara et al.

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We read with great interest the recent publication by Samara et al. (A Single Retrograde Intramedullary Nail Technique for Treatment of Displaced Proximal Humeral Fractures in Children Case Series and Review of the Literature) in which the authors described a modified single retrograde intramedullary nail technique for displaced proximal humeral fractures in skeletally immature patients.

Even if the essence of the publication's concept is very attractive, the study is marked, to our opinion, to a certain degree by lacunae and imprecision which require proper explanations.

1. Most of proximal humeral fractures which were treated in this study (Neer-Horowitz type III & IV) were severely displaced and therefore recognized to be quite unstable. When reduced, these lesions required most of the time stable internal fixation. The authors explained that the stability of fracture fixation was checked under fluoroscopic imaging by rotating the humeral head in different directions. What happened if instability was present? Did the authors insert another nail in any cases?

2. When a surgical procedure is proposed to a family, the best reduction and the more stable construction should be performed considering the chosen technique. In the current state of our knowledge, it seems obvious that the use of 2 nails is biomechanically superior, especially when no immobilization is recommended.

On the basis of the results, nothing authorizes the authors to conclude that "the stabilization method that blocks the rotation of the proximal fragment with a second nail is not needed". Such a statement should be validated at least by a biomechanical model study of a reduced proximal humeral fracture and to compare stiffness for nail size and number of nails....

3. In many cases of displaced fractures, using two nails may be useful to complete the reduction with appropriate rotation manoeuvres, what the technique with a single nail does not allow.

4. It is also difficult to conceptualize that incomplete fracture reduction is acceptable, since, as said by the authors, there is still a potential for remodeling in teenagers, and considering that the shoulder has so many degrees of freedom in its movement, thus avoiding possible joint malalignment.

5. Finally, we are very skeptical that significant differences can be highlighted between single and double retrograde intramedullary nail technique, when the operating time, the blood loss, and the costs are taken into consideration.

Thus, we believe that it is crucial that young surgeons are not misled. For severely displaced proximal humeral fractures, we do not consider that a single retrograde intramedullary nail technique provides sufficient stability, above all if the patient is not immobilized and invited to perform mobility's exercises. The time required to insert the second nail, the blood loss and the cost of the treatment do not constitute sufficient funds to take the risk of a fixation failure.

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References

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Conflict of Interest: None Declared