Reply to: Can we decipher the indications and outcome of the PHILOS plate for fractures of the proximal humerus?

Zu-Bin Zhou · You-Shui Gao · Ming-Jie Tang ·
Yu-Qiang Sun · Chang-Qing Zhang

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Dear Editor,

We are grateful for the insightful comments on the PHILOS plating technique for proximal humeral fractures from Nicholas Clement. He has collected prior published data for pooling analysis, found obvious heterogeneity of these studies and revealed marked variations of Constant scores following PHILOS stabilisation.

The epidemiological study by Court-Brown and Caesar showed that the mean age of patients suffering proximal humeral fractures is 65 years [1]; however, pooling of data yields an average age of 62 years. We believe the latter might be more representative, for inclusion in the latest studies from more regions. Moreover, we should realise that the population of adults suffering fractures has become younger in past decades due to industrialisation and high-speed transportation. Of course, we have noted that the indications for the PHILOS plating technique might have been broadened. However, we also know all treatment protocols are individualised, and patients should be informed about full consideration of previous outcome, potential risks and prospective results. It is certain that the PHILOS plate can be given priority for use in young active patients.

Indeed, the post-operative Constant score varies greatly in these studies even though the variation of age has been adjusted. It might not be difficult to find answers to the question. First, surgical techniques using the PHILOS plate for proximal humeral fractures are currently not consistent. For pooling analysis, the effect of the surgical approach on functional results should be taken into consideration. Moreover, intra-operative repair of concomitant rotator cuff injuries contributes greatly to functional recovery. Second, apart

from the age, potential factors, including fracture patterns, dislocation, smoking, reduction quality, systemic diseases and iatrogenic impingement, might affect early and mid-term clinical results [2]. Third, some unrevealed factors might exist, such as psychogenic status, lifestyle and so on.

The high incidence of complications has attracted great attention when PHILOS is employed for the elderly [3]. For the majority of stable and extra-articular fractures of the proximal humerus, conservative treatment can yield satisfactory results. However, shoulder arthroplasty cannot resolve all complicated fractures due to the inherent limitation of current shoulder prostheses [4]. Therefore, internal fixation using a plating technique currently seems reasonable and indispensable for proximal humeral fractures in the elderly. Improvement of orthopaedic implants and surgical techniques (such as minimally invasive surgery) continues to be attractive [5]. It is also valuable to reveal and avoid potential risk factors to decrease post-operative complications.

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Z.-B. Zhou · Y.-S. Gao · M.-J. Tang · Y.-Q. Sun (✉) ·
C.-Q. Zhang

Department of Orthopedic Surgery, Shanghai Sixth People's
Hospital, Shanghai Jiao Tong University, Shanghai 200233, China
e-mail: heavycaterpillar@126.com