Comment on Wang et al.: Single-stage posterior instrumentation and anterior debridement for active tuberculosis of the thoracic and lumbar spine with kyphotic deformity

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Dear Sir,

We read the article titled “Single-stage posterior instrumentation and anterior debridement for treatment of active spinal tuberculosis with kyphotic deformity” by Xiao-bin Wang et al. where the patients did very well both in terms of kyphosis correction and neurological improvement [1]. We congratulate them for their nice work and study. The mean pre-operative kyphotic angle noted by the authors was 53.5° which was corrected up to 12.6° post-operatively. The mean vertebral body loss (VBL) was 1.2. Rajasekaran et al. proposed the method to calculate the predicted angle of kyphosis for thoracic and thoracolumbar levels in adults as $Y=5.5+30.5 \text{ VBL}$ [2]. This formula has been used widely and found to have a good correlation with the final angle. The predicted angle should be the maximum possible final kyphosis where patients are treated by conservative methods. However the initial kyphosis always remains less than this predicted angle, which has also been shown by various other studies [3, 4]. In the study by Wang et al. the mean VBL was 1.2, thus the mean predicted kyphotic angle came out to be 42.1° ($5.5+30.5 \times 1.2$) using the above formula. But their initial preoperative angle (53.5°) was very much higher than the predictive angle which we found to be

contrary to the previous studies [2–4]. So we request the authors to kindly explain the possible causes for such discrepancies in the values of predicted and initial observed angle. We however agree with the authors that one stage posterior fixation along with anterior debridement is a safe and effective option for surgical treatment of spinal tuberculosis with kyphosis and paraplegia.

References

1. Wang XB, Li J, Lü GH, Wang B, Lu C, Kang YJ (2012) Single-stage posterior instrumentation and anterior debridement for active tuberculosis of the thoracic and lumbar spine with kyphotic deformity. *Int Orthop* 36(2):373–380
2. Rajasekaran S, Shanmugasundaram TK (1987) Prediction of the angle of gibbus deformity in tuberculosis of the spine. *J Bone Joint Surg Am* 69(4):503–509
3. Jain AK, Aggarwal PK, Arora A, Singh S (2004) Behaviour of the kyphotic angle in spinal tuberculosis. *Int Orthop* 28(2):110
4. Kwon SE, Shin JH, Na KH, Kim YC, Ha KY (2009) Kyphotic angle progression of thoracic and thoracolumbar tuberculous spondylitis after surgical treatment: Comparison with predicted kyphosis outcome after conservative treatment. *Asian Spine J* 3(2):80–88

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