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Correspondence

A commentary on "Oblique lateral interbody fusion combined percutaneous pedicle screw fixation in the surgical treatment of single-segment lumbar tuberculosis: A single-center retrospective comparative study" [Int. J. Surg. 83 (2020) 39–46]

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Dear Editor,

With an increase in incidence, lumbar tuberculosis has recently become an insidiously life-threatening infectious disease. However, treatment of lumbar tuberculosis is still controversial. Oblique lateral interbody fusion (OLIF), a minimally invasive and safe surgical technique, has been widely used to treat progressive disease of the lumbar spine using lumbar intervertebral fusion [1,2]. There are still no studies to evaluate the clinical efficacy of OLIF in lumbar tuberculosis surgery. Recently, Du et al. [3] performed a retrospective comparative study to evaluate the clinical efficacy of OLIF combined with posterior percutaneous pedicle screw fixation in treatment of a single-segment lumbar tuberculosis. The results of this study demonstrated that both OLIF and traditional posterior lumbar fusion surgery achieved satisfactory clinical outcomes, but OLIF had the additional advantages of less surgical trauma, faster postoperative recovery and shorter bone fusion time.

Tuberculosis mainly invades the anterior column of spine, and the infection develops from ventral to the spinal canal. Thus, it is difficult to thoroughly remove all the infected tissues using a single anterior or posterior surgical approach. However, the combined anterior and posterior approach affect postoperative recovery with more surgical trauma and bleeding. OLIF, on the other had, presents the following advantages in treatment of lumbar tuberculosis: First, adequate amounts of infected tissues and pus can be removed for microbial detection and microscopic. Second, infected tissues of discs and vertebral bodies can be safely and accurately cleared under direct vision. Third, as OLIF is carried out through a natural interspace between the abdominal aorta and psoas major, it is not necessary to damage any bony structures during the surgical procedure. As a consequence, maximum stabilization of spine and avoidance of risks in damaging important structures such as blood vessels, nerves and spinal cord can be achieved.

The advantages of OLIF in treating lumbar tuberculosis are similar to those in treating other spinal diseases [4,5]. Although OLIF has been widely used, we still need to emphasize on some key technical points in its treatment of lumbar tuberculosis: (i) patients with a single segment, or with a maximum of two segments of spinal TB, is most suitable for OLIF; (ii) excessive traction on the psoas should be avoided. Instead, incision of the front edge of the psoas is advised when it is difficult to establish a working channel; (iii) removal of the left 12th rib should be considered when it becomes difficult to expose L_{1-2}; and (iv) it is better to use intraoperative neuroelectrophysiological monitoring to avoid unnecessary injury of the spinal cord.

Provenance and peer review

Commentary, internally reviewed.

Conflicts of interest

We declare there exists no conflicts of interest.

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NA.

Research registration unique identifying number (UIN)

Please enter the name of the registry and the unique identifying number of the study. You can register your research at http://www.researchregistry.com to obtain your UIN if you have not already registered your study. This is mandatory for human studies only.

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Author contribution

Please specify the contribution of each author to the paper, e.g. study design, data collections, data analysis, and writing. Others, who have contributed in other ways should be listed as contributors. Yingqi Liu：original draft. Huarui Shen：data analysis and review.

Guarantor

The Guarantor is the one or more people who accept full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish.

References

[1] D.S. Xu, C.T. Walker, J. Godzik, J.D. Turner, W. Smith, J.S. Uribe, Minimally invasive anterior, lateral, and oblique lumbar interbody fusion: a literature review, Ann. Transl. Med. 6 (6) (2018) 104.

[2] R. Li, X. Li, H. Zhou, W. Jiang, Development and application of oblique lumbar interbody fusion, Orthop. Surg. 12 (2) (2020) 355–365.

[3] X. Du, Y.S. Ou, Y. Zhu, W. Luo, G.Y. Jiang, D.M. Jiang, Oblique lateral interbody fusion combined percutaneous pedicle screw fixation in the surgical treatment of single-segment lumbar tuberculosis: a single-center retrospective comparative study, Int. J. Surg. 83 (2020) 39–46.

[4] K.T. Kim, D.J. Jo, S.H. Lee, E.M. Seo, Oblique retroperitoneal approach for lumbar interbody fusion from L1 to S1 in adult spinal deformity, Neuros Surg Rev 41 (1) (2018) 355–363.

[5] R.J. Mobbs, K. Phan, G. Malham, K. Seex, P.J. Rao, Lumbar interbody fusion: techniques, indications and comparison of interbody fusion options including PLIF, TLIF, MI-TLIF, OLIF/ATP, LLIF and ALIF, J Spine Surg 1 (1) (2015) 2–18.

Yingqi Liu
Department of Spinal Surgery, Chongqing Orthopedic Hospital of Traditional Chinese Medicine, Chongqing, 400000, China

Huarui Shen*
Department of Joint Surgery, Affiliated Traditional Chinese Medical Hospital of Southwest Medical University, Sichuan, 646000, China

* Corresponding author.
E-mail address: daysrsxiu@163.com (H. Shen).