Reply to the Letter to the Editor

Reply to the Letter to the Editor: The Oblique Anterolateral Approach to the Lumbar Spine Provides Access to the Lumbar Spine With Few Early Complications

Christoph Mehren MD, H. Michael Mayer MD, Christoph Zandanell MD, Christoph J. Siepe MD, Andreas Korge MD

To the Editor,

We would like to thank the authors for their interest and critical review of our manuscript [2]. We would like to take this opportunity to address their comments and questions.

The authors of the letter questioned whether there was a correlation between the risk of retroperitoneal

hematoma infection and the operated level. We apologize for not including this information in our publication. Our data showed that with the numbers available there was no relevant correlation between the surgical level and the occurrence of the abovementioned postoperative complications. We observed a total of 11 hematomas overall. Four of those patients underwent surgery at two contiguous levels (L3–L5 in three patients and L2–L4 in one patient). The remaining seven patients were recorded as single-level procedures (four patients at L4/5; three patients at L3/4, respectively).

Likewise, with the numbers available, we observed no relationship between the spinal level and the risk of developing infection; among patients who developed infection, there were two double-level procedures, both performed at L3–L5, and three single-level procedures at the L4/5 levels.

The authors of the letter also asked about the rate of retroperitoneal hematomas, which some believe may be higher when utilizing the transmuscular approach. Unfortunately, we cannot answer this question as we did not compare the anterolateral oblique and the transpoas approach directly in this study. To our knowledge, no published studies have appropriately investigated this research question by means of routine postoperative MRI images. However, as pointed out in the introduction of our manuscript, the risks associated with both postoperative hip flexor and quadriceps weakness, which have been linked to the transmuscular approach, can range between 20% and 36% [1, 3].

Finally, we would like to thank the authors for sharing their experiences with the oblique anterolateral approach

(RE: Mehren C, Mayer HM, Zandanell C, Siepe CJ, Korge A. The Oblique Anterolateral Approach to the Lumbar Spine Provides Access to the Lumbar Spine With Few Early Complications. *Clin Orthop Relat Res*. 2016;474:2020-2027).

Each author certifies that he or she, or a member of his or her immediate family, has no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article. All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request.

The opinions expressed are those of the writers, and do not reflect the opinion or policy of *CORR*® or The Association of Bone and Joint Surgeons®.

C. Mehren MD (✉), H. M. Mayer MD, C. J. Siepe MD, A. Korge MD
Schön Klinik München Harlaching,
Harlachinger Strasse 51, 81547 Munich,
Germany
e-mail: cmehren@schoen-kliniken.de

C. Mehren MD, H. M. Mayer MD,
C. Zandanell MD, C. J. Siepe MD,
A. Korge MD
Spine Center, Academic Teaching
Hospital and Spine Research Institute,
Paracelsus Private Medical University
Salzburg, Salzburg, Austria

Reply to the Letter to the Editor

to the lumbar spine and, in particular, pointing out the incidence of vascular complications.

References

1. Formica M, Berjano P, Cavagnaro L, Zanirato A, Piazzolla A, Formica C. Extreme lateral approach to the spine in degenerative and post traumatic lumbar diseases: selection process, results and complications. *Eur Spine J.* 2014;23:684–692.
2. Mehren C, Mayer HM, Zandanell C, Siepe CJ, Korge A. The oblique anterolateral approach to the lumbar spine provides access to the lumbar spine with few early complications. *Clin Orthop Relat Res.* 2016;474:2020–2027.
3. Moller DJ, Slimack NP, Acosta FL, Koski TR, Fessler RG, Liu JC. Minimally invasive lateral lumbar interbody fusion and transpsoas approach-related morbidity. *Neurosurg. Focus.* 2011;31:E4.