LETTER TO THE EDITOR

Letter to the Editor concerning “Clinical anatomy of the lumbar sinuvertebral nerve with regard to discogenic low back pain and review of literature” by Sara Quinones et al. (Eur Spine J [2021]; 30(10):2999–3008)

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Abbreviations

IVD  Intervertebral disk
IVF  Intervertebral foramen
SVN  Sinuvertebral nerve

The article by Quinones et al. on the clinical anatomy of the lumbar sinuvertebral nerves (SVNs) raises some questions. It is unclear how the authors came to the conclusion that blocking of the SVN should be performed at the inferior vertebral notch. The authors did not perform measurements of the SVN distance in relation to this notch. Regardless, they state that all SVNs were close to the inferior vertebral notch, without defining “close”. More importantly and contradictory to their conclusion, the authors’ figures show that the SVN runs either in the middle or lower intervertebral foramen (IVF) portion. We and others have shown that lower lumbar SVNs indeed course in the middle or inferior IVF portions [1–3]. Retrodiscal targeting of the SVN seems, therefore, the appropriate place for a block, which is different from the suggested subpedicular site.

The authors indicate that the SVNs of two adjacent segments need to be blocked in treating discogenic low back pain. They do not, however, specify whether this concerns the sub- or suprajacent intervertebral disk (IVD) or both, nor does this conclusion seem to reflect their results. After all, in the presented data the most common SVN type (ascending SVN type; 72%) runs to the center of the corresponding vertebral body, but does not always seem to innervate the corresponding IVD (compare, e.g., Figs. 3b and 4a). Additionally, the mixed course SVNs (23.3%) only innervate the index-level IVD (Figs. 2c and 4b). Their results, therefore, imply either absence of IVD innervation or segmental innervation in most cases. We have found lumbar IVDs to be innervated by both the descending branch of the corresponding SVN and the ascending branch of the subjacent SVN [1], in accordance with Bogduk et al. [4]. Accordingly, in the case of single-level discogenic pain, the corresponding and subjacent-level SVNs should be blocked.

The authors did not find a SVN in nearly 20% of total IVFs and more than half (7/12; 58.3%) of S1 IVFs. The consensus is that SVNs are present in every IVF [1, 2]. The authors did not explain the discrepancy between their data and the literature which makes interpretation difficult. Furthermore, the authors question the neural nature of the type I SVNs found by Zhao et al. [3] and advise immunohistochemistry for confirmation. Interestingly, the authors themselves did not provide histological verification of the structures they labeled as neural, creating a similar issue regarding the validation of their own data.

We noticed several peculiarities concerning the figures. Figure 7b seems to be a 180 degree rotation of Fig. 7a, but in another color setting and with different labeling of nerve root levels. Figures 3b and 4a appear to be the same specimen, but in another stage of the dissection and with differently indicated nerve root levels. How can these inconsistencies be explained? Regardless, they contribute to doubt regarding the accuracy of the presented data.

Declarations

Conflict of interest  The authors have no competing interests to declare that are relevant to the content of this letter.

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