



# Can sinuvertebral nerve block be used for the treatment of discogenic low back pain?—Look before you leap

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I read with interest the recently published article, “*Sinuvertebral nerve block treats discogenic low back pain: a retrospective cohort study*” by Liu *et al.* (1). They reported that sinuvertebral nerve block (SVNB) could effectively control discogenic low back pain (DLBP). Considering that DLBP is frequently unresponsive to various conservative and surgical treatments, the positive therapeutic effect of SVNB in Liu *et al.*'s study is good news for pain physicians. However, there are some issues making their results unreliable.

First, the diagnosis of DLBP was not accurately determined in the included patients. Liu *et al.* diagnosed DLBP based on clinical symptoms (pain with increased abdominal pressure and when sedentary or lifting heavy objects, difficulty maintaining the same position, or alleviation of pain when lying flat) and evidence of disc degeneration on magnetic resonance imaging (MRI). Other than the discs, several other anatomical structures can result in low back pain (LBP) (2). For example, degeneration or inflammation of the facet joint, ligament, or muscle can also induce LBP which resembles the pain associated with DLBP (2). Therefore, it is not usually possible to differentiate the origin of LBP. Also, degenerated discs often do not cause pain (3). Collins *et al.* performed lumbar spine MRI in healthy subjects having no DLBP and found that 17% of the discs had low signal intensity on T2-weighted imaging (3). Provocative discography is considered an important imaging and pain evaluation tool for the accurate diagnosis of DLBP (4). Many previous studies have used provocative discography for identifying patients with

DLBP (5,6). To increase the reliability of Liu *et al.*'s study, provocative discography prior to confirming the inclusion of each patient in their study is recommended.

Second, SVNB was used for the diagnosis of DLBP, and not for a therapeutic purpose. Schliessbach *et al.* reported that the sensitivity and specificity of SVNB as 73.3% and 40%, respectively (7). They also reported that SVNB cannot replace discography but can be used supportively for the diagnosis of DLBP. Furthermore, Liu *et al.* injected 0.3 mL of 0.66% lidocaine solution. The effect of lidocaine disappeared within a few days. Also, with an injection dose of only 0.3 mL, washing-out cannot be expected. The injection of 0.3 mL lidocaine is not appropriate therapeutically.

Lastly, a placebo effect cannot be excluded. Liu *et al.* conducted their study without a control or placebo group. The placebo effect frequently occurs in clinical trials, especially in pain research (8). Hence, there is a possibility that the effect of SVNB was overestimated.

To increase the reliability of Liu *et al.*'s study, the above-mentioned issues should be resolved.

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## References

1. Liu Z, Ma R, Fan C, et al. Sinuvertebral nerve block treats discogenic low back pain: a retrospective cohort study. *Ann Transl Med* 2022;10:1219.
2. Zhang YG, Guo TM, Guo X, et al. Clinical diagnosis for discogenic low back pain. *Int J Biol Sci* 2009;5:647-58.
3. Collins CD, Stack JP, O'Connell DJ, et al. The role of discography in lumbar disc disease: a comparative study of magnetic resonance imaging and discography. *Clin Radiol* 1990;42:252-7.
4. Manchikanti L, Glaser SE, Wolfer L, et al. Systematic review of lumbar discography as a diagnostic test for chronic low back pain. *Pain Physician* 2009;12:541-59.
5. Kim SH, Ahn SH, Cho YW, et al. Effect of Intradiscal Methylene Blue Injection for the Chronic Discogenic Low Back Pain: One Year Prospective Follow-up Study. *Ann Rehabil Med* 2012;36:657-64.
6. Yang S, Boudier-Revéret M, Chang MC. Use of Pulsed Radiofrequency for the Treatment of Discogenic Back Pain: A Narrative Review. *Pain Pract* 2021;21:594-601.
7. Schliessbach J, Siegenthaler A, Heini P, et al. Blockade of the sinuvertebral nerve for the diagnosis of lumbar diskogenic pain: an exploratory study. *Anesth Analg* 2010;111:204-6.
8. Vase L, Wartolowska K. Pain, placebo, and test of treatment efficacy: a narrative review. *Br J Anaesth* 2019;123:e254-62.

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