Comments on "Comparison of Different Treatment Regimens of Extracorporeal Shockwave Therapy in Chronic Low-back Pain: A Randomized Controlled Trial"

To the Editor:

We read with great interest the article by Hao Chen et al (1) concerning the effectiveness and safety of low-intensity versus medium-intensity extracorporeal shockwave therapy (ESWT) on chronic low-back pain (CLBP). The study revealed that at the same total energy dose, low-intensity multi-session ESWT was more effective in relieving pain and improving disability in the short-term than medium-intensity less-session ESWT.

However, for this article, we still have some doubts.

First, regarding the patient criteria, the research did not indicate whether the patients have received trigger point injection therapy with local anesthetics or/and steroids. Some studies have shown that trigger point injection therapy provided some transient pain relief (2). And a retrospective study has shown that ultrasound-guided local injections of anesthetics and steroids at the trigger point had satisfactory results in reducing low back pain and improving joint function, and remained statistically significant at one year follow-up (3).

Second, the effectiveness of shockwave treatment is highly dependent on the experience of the provider, yet the research did not mention whether the treatment was performed by the same medical staff.

Third, for the shockwave, different probes and energy are recommended for different sites. For example, low intensity and medium intensity are used to treat chronic soft tissue disorders, cartilage disorders and superficial osteogenic disorders; high intensity is used to treat deeper osteogenic disorders, delayed fracture healing and osteogenic disorders such as femoral head necrosis (4). Focused shockwave and horizontal focused shockwave are used to treat osteogenic disorders such as osteointegration and delayed fracture healing, femoral head necrosis, and deep osteochondral disorders; dispersive shockwave is used to treat chronic soft tissue disorders, superficial bone and cartilage disorders, and to relieve muscle spasm; flat shockwave is used to treat superficial chronic soft tissue disorders, wounds, ulcers and scars, etc. However, the research did not analyze and describe the tissues at the site of pain and the type of the shock wave probes (4). And the energy of the focused extracorporeal shockwave is expressed in energy flux density, while the divergent extracorporeal shock ratio is expressed in bar, and the manuscript did not indicate whether the focused shockwave was used.

Fourth, in the discussion section of the manuscript, it was mentioned that previous studies have mostly used a moderate intensity of 0.10-0.15 mJ/mm^2 for the treatment of CLBP. Why did the investigators in this study not choose a moderate intensity in this interval, but instead chose 0.09 mJ/mm^2?

Finally, the research did not indicate whether each patient had only one trigger point, and no baseline analysis was performed for the number of trigger points. In addition, the manuscript mentioned the medication as a complementary treatment if patients experienced worsening symptoms or stop the trial. In the results section, it did not indicate whether there was a difference between the 2 groups in terms of using the medication as a complementary treatment.

Hongyu Zhu, MD,
Department of Pain Management, West China Hospital, Sichuan University, Chengdu, Sichuan Province, P. R. China

Ling Ye, MD
Department of Pain Management, West China Hospital, Sichuan University, Chengdu, Sichuan Province, P. R. China
E-mail: zerodq_hx@163.com

References

1. Sun H, Chen H, Mu G, Fu H, Yue L. Comparison of different treatment regimens of extracorporeal shockwave therapy in chronic low-back pain: A randomized controlled trial. *Pain Physician* 2022; 25:E1211-E1218.
2. Malanga G, Wolff E. Evidence-informed management of chronic low back pain with trigger point injections. *Spine J* 2008; 8:243-252.
3. Zhu Z, Zhang J, Sheng J, Zhang C, Xie Z. Low back pain caused by iliopsoas tendinopathy treated with ultrasound-guided local injection of anesthetic and steroid: A retrospective study. *J Pain Res* 2020; 13:3023-3029.
4. Xing G, Zhang H, Liu S, Zhao Z. Guidelines for extracorporeal shock wave therapy for bone and muscle diseases in China (in Chinese). Chinese *Journal of the Frontiers of Medical Science (Electronic Version)* 2019; 11:1-10+6.