In Response to: Comments on "Comparison between Two Volumes of 70% Alcohol in Single Injection Ultrasound-Guided Celiac Plexus Neurolysis"

To the Editor:

We thank Dr. Hongyu Zhu and Dr. Ling Ye for their interest in our work (1). Their comments allow us to clarify some points.

First, Dr. Hongyu Zhu and Ling Ye questioned whether the operator is the same experienced doctor or several doctors. In our work, we compared 2 different volumes of 70% alcohol in single injection ultrasound-guided celiac plexus neurolysis aiming to control upper abdominal pain with the lowest possible side effects. All interventions were done with the same operator with help of pain team members in our institute. (1)

Second, Dr. Hongyu Zhu and Dr. Ling Ye highlighted that during celiac plexus block (CPB); the should be injected first, followed by the local anesthetic after confirming satisfactory diffusion of the contrast agent. Several approaches could be used to block the celiac plexus. Posterior approaches included the classic retrocrural, the anterocrural, the transaortic, and the transdiscal approaches (2). The posterior approaches used the insertion of 2 needles with the guidance of dye injection and fluoroscopy (3), with the possibility of many vascular and neurological complications (2). CPB can be performed through the anterior abdominal wall with the guidance of Computed tomography (CT) or ultrasound (US) with a high degree of accuracy and results equivalent to or even better than posterior approaches (4).

Ultrasound guided celiac plexus block (USCPB) is a simple and cost-effective approach with the ability of real-time visualization of the Aorta and its branches as well as real-time visualization of the spread of injected solution without the need for contrast media according to the observational study done by Bhatnagar S. et al (5). In this study, USCPB was performed for eleven eligible patients followed by a post-procedure CT scan to evaluate the technical outcome of the procedure. There was appreciated spread of the injected drug in all patients. (5)

Moreover, Dr. Hongyu Zhu and Dr. Ling Ye in their inquiry depend on a published article about Contrast-enhanced USCPB performed by Wang L et al (6). In this work, Wang L et al(6), used the US contrast agent SonoVue with observation of the puncture path, the needle tip position, and injected solution spread by using the contrast harmonic imaging mode with the US machine, and fluoroscopy was not used.

In our work, we excluded 3 patients with obscured US views and we were able to observe the spread of the injected solutions for the rest of the patients using real-time US without the need for contrast injection (1).

Third, Dr. Hongyu Zhu and Dr. Ling Ye mentioned that CT-guided CPB has higher anatomical resolution than USCPB, with less liability for abdominal organ injury. Moreover, they stated that US is greatly disturbed by gas. In fact, in our institution, we have no experience with CT-guided pain management interventions, and we preferred US guidance over fluoroscopy for CPB. USCPB is less expensive and carries less radiation risk. Moreover, USCPB has several advantages like the ability to monitor the whole procedure in real time and avoidance of vascular injury (7). Even though the block needle may pass through the stomach or the liver during USCPB, no serious needle-related complications were reported (7).

In our work, we did general abdominal US scanning before injection and we excluded patients with obscured US views. CPB for these patients was performed using the fluoroscopic guided posterior approach (1).

Finally, Dr. Hongyu Zhu and Ling Ye questioned the cause of using a single needle to do central block during percutaneous USCPB instead of bilateral block like the work that was done by Dolly A et al (8)

Simply, in our work we performed USCPB using single needle injection because we were able to identify the abdominal aorta, its branches as well as the celiac ganglion itself even if it was displaced by the mass effect of the tumor, so it was not difficult to attack the celiac plexus using a single needle. (1)

In the work done by Bhatnagar and colleagues (9), they found that percutaneous US-guided celiac plexus neurolysis using unilateral paramedian single needle approach is similar to bilateral paramedian two needle approach regarding pain relief and adverse effects.

Dolly A et al (8), used 2 needles because they per-

formed CPB using a posterior transdiscal approach guided by fluoroscopy, where the accurate location of the celiac plexus cannot be guaranteed.

In summary, percutaneous USCPB using a single needle injection approach is safe, accurate, and cost-effective and carries a lower risk of post-procedural complications.

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