

Respond to: Comparison of sonographic inferior vena cava and aorta indexes during fluid administered in children



This study was conducted prospectively in South Korea.

There are so many children who come to the pediatric emergency department who really don't need IV hydration.

It was hard work and the recruitment rate was very low for the enrollment of 34 children who need IV hydration during the emergency physician's working time, who has the certification of the ultrasound imaging and teaching.

The patients who were in life-threatening shock were excluded because those patients were sorted to the critical pathway in the PED.

And, it is hard to define hypovolemic shock in children.

This study was conducted in the PED, not in the ICU for the evaluation of Ao/IVCA and other indexes, not for the preload. Ao/IVCA might be related to preload, however, we could not perform the study related to the preload because the common children with AGE might not need the invasive or critical monitoring in South Korea.

Thank you for your comments.

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23 October 2018

<https://doi.org/10.1016/j.ajem.2018.10.051>

Ultrasound-guided erector spinae plane block for acute herpes zoster pain management: Is it safe?



Dear Editor,

We read with great interest the case report titled "Ultrasound-guided Erector Spinae Plane Block for Acute Herpes Zoster Pain Management," by Tekin et al. [1] We applaud the authors' efforts in controlling pain during its devastating acute phase, and we agree that a number of randomized controlled trials are needed to determine the efficacy of this approach in comparison to conventional methods of pain management. However, a few questions come to mind regarding the efficacy, duration of action, and safety of the block, which may need to be addressed before drafting a study protocol.

First, over 90% of a pooled review of 242 cases showed that an erector spinae plane block (ESPB) was used as part of a multimodal analgesia regimen [2]. Thus, our question is, what other methods of analgesia were used with their ESPB technique during a follow-up period of up to one month?

Second, earlier studies have shown that beyond the initial duration of complete analgesia for 12–36 h, patients with continued, post-herpetic neuralgia continue to need additional boluses or a continuous infusion by catheter [3,4]. We are thus curious if there are any other details that the authors can provide to explain a month of sufficient pain control (3/10) from a single, initial shot of ESPB.

Finally, in regards to safety, the disease is highly contagious, and most patients with Varicella-zoster virus reactivations are immunocompromised. According to text books [5] and our clinical experience, the pictures in the case report show that the skin eruptions covered the T2 region and, quite possibly, the T3 region as well, despite the authors mentioning the dermatomal coverage as T1. The authors also mentioned the needle insertion level as T2/3. However, injecting a possibly infected skin area during the eruptive phase could increase the risk for auto-inoculation into deep areas or viremia that could lead to life

threatening dissemination of the infection. What precautions should be taken into consideration before injection?

Financial support

No financial support existing.

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18 November 2018

<https://doi.org/10.1016/j.ajem.2018.12.005>

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Ultrasound guided erector spinae plane block as a safe and effective method to treat herpes zoster pain



Dear Editor;

We thank readers for interest in our manuscript entitled with "High-thoracic ultrasound guided erector spinae plane block for acute herpes zoster pain management in emergency department" [1]. We also

applaud all commenters that the authors precisely read and viewed our article in detail. Before answering questions and suggestions, we have considered that it is appropriate to introduce some basic/fundamental information about varicella zoster infection, pain control, cervical and thoracic dermatomes.

The varicella zoster virus (VZV) have major affinity to cervico-thoracic sensitive ganglia and stay many years in that location; and cause zosteriform cutaneous pathologies following immunodeficiency. Herpes zoster can be reactivated and spread from a single/more dorsal root, cranial or autonomic ganglia network to the corresponding dermatome. Acute herpetic neuralgia has a profound negative impact on functional status and quality of life and usually results in substantial health service utilization. Therefore, as the duration of pain increases in the first episode, the rate of recurrence increases. Recurrence rates can be reduced by applying an effective analgesic method.

We can't manage the acute pain and related autonomic disturbances while trying to control the infection by antiviral treatment although severe pain is mostly important entity for patients. Beside of using analgesic agents like as nonsteroidal anti-inflammatory agents, gabapentinoids, opioids, etc. several invasive procedures are also involved in multimodal analgesia.

Epidural analgesia and paravertebral block are regional anesthesia techniques that are commonly applied in acute herpetic neuralgia [2–4]. Most recently diagnosed and performed in many indications in acute-chronic pain, ultrasound guided erector spinae plane (ESP) block is a regional anesthetic technique that is increasingly popular due to both its distance from neural and vascular structures and its ease of application [5]. As in the cases related to pain, the ESP block and serratus plane blocks are the blocks that as a safer and distinguished alternative in the case of post herpetic neuralgia [6,7].

The other case that we would like to deal with is the anatomic positioning of the cervical and thoracic dermatomes. The cervical and thoracic nerves, arising from the midline level of the vertebrae, follow a slightly downward oblique course through the lateral side of thorax and abdomen parallel with the dermatomes of affected nerve root traces. For instance, while the first thoracic vertebrae is at the back midline in horizontal plane and at the upper limit level of shoulder, it corresponds to axilla in lateral.

After this basic general information, our answers as follows to requested questions:

Firstly; reader ask: “What other methods of analgesia were used with their ESP block technique up to the one month follow up period?” Primarily, we indicated that patient's VAS score decreased to 0/10 at the 15th minute, 30th minute and the next day following ESP block. We have recommended that the patient should continue the ongoing gabapentin and analgesics regimen before the block. Discontinuing current medication (analgesic-anti-inflammatory drugs) for the patient could not be a rational step. In our case, there have been significant points that the VAS score was found as 10/10 in spite of the same drugs in the pre-block period and with adding methylprednisolone to the local anesthetic agent in the ESP block procedure, VAS score was observed as less than or equal to 3/10 in the post-block period. In the insight of these data; it would not be an exaggerated statement that we consider that the effective and decisive part of multimodal analgesia has been obtained by applying ESP block in a monthly period.

The second question is; “We are thus curious if there are any other details that the authors can provide in order to explain the one month of sufficient pain control (3/10) from one single initial shot of ESP block.” As we have just mentioned, we think that in ESP block applications, methylprednisolone/local anesthetic mixture may extend the duration of effectiveness. Recent papers reported that the use of methylprednisolone in interfascial plane blocks leads to long-lasting analgesia in chronic pain [8,9]. Antiviral, gabapentinoids and analgesic regimen is continued after block procedure.

The last and perhaps the most important thing that reader say is the assertion that we could have applied the ESP block from the infected

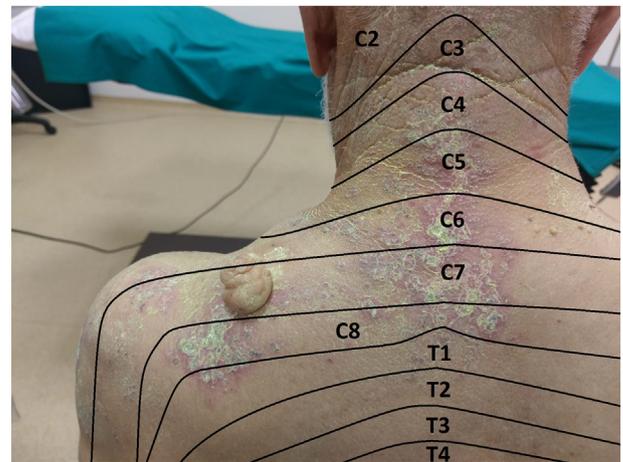


Fig. 1. Schematic demarcation of dermatomes (according to Keegan and Garrett) [10].



Fig. 2. Ultrasound placement of ESP and dermatomes.

area and we could cause deep-tissue auto-inoculation and hence the viremia, which would threaten the patient's life. For this situation, we recommend that the authors and the readers with similar concerns should review the images in the light of the anatomical information that we mentioned at the beginning (Fig. 1).

Let's assume that; If also T2 dermatome was covered by the lesions as the authors said, would ESP block application at T2 level cause a life-threatening condition? In fact, anyone who makes an **in-plane** technique ESP block from caudal to cranial knows that; our needle entry point always remains one or two level below of the transverse process. In other words, the targeted transverse process and the needle entry point is not in the same plane (Fig. 2). We think that we need a longer time to get rid of these concerns, become widespread of ESP block, to be implemented by everyone and to see how reliable it is.

We recommend to researchers who will work on ESP block; when they find the appropriate indication, should not avoid the application of ESP block, report the results and share with the colleagues. The speed of dissemination of knowledge with academic articles is, unfortunately, slower than those between colleagues. In the near future, we will see that interfacial plan blocks are used in many fields of medicine, especially in the fields of anesthesia, emergency medicine, and algology.

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26 November 2018

<https://doi.org/10.1016/j.ajem.2018.12.006>

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The end of the era of endotracheal intubation as the golden standard of airway management



Sir,

We have read the article by Alter et al. [1] published in *The American Journal of Emergency Medicine* with great attention. The authors compared the intubation success rates of paramedics using curved versus straight blades.

The authors point out that one of the limitations of the study is the experience in intubation. However, as other studies suggest, the effectiveness of intubation with direct laryngoscopy may be about 50 intubation attempts or even more, and medical personnel is able to use supraglottic airway devices during airway management with high efficiency after a short training [2,3].

Until recently, endotracheal intubation was the golden standard for advanced airway management and ventilation in sudden cardiac arrest patients and was performed by highly skilled medical personnel [4]. Though, the definition of highly skilled medical personnel is unclear; several studies analyzed the minimal number of endotracheal intubations needed to quickly perform the procedure without serious complications in cardiac arrest [5].

In November 2017, an update of the American Heart Association guidelines informed that supraglottic ventilation devices could be used for cardiopulmonary resuscitation, with continuous uninterrupted chest compressions [6].

It is worth emphasizing that numerous studies indicate the possibility of using supraglottic ventilation devices both during cardiopulmonary resuscitation and during some types of elective surgery [7]. An additional advantage of supraglottic ventilation devices over endotracheal intubation is the fact that it can be applied by personnel without appropriate knowledge on endotracheal intubation or authority to perform it, as in the case of the routine usage of supraglottic airway devices by firefighters in Poland [8].

Taking into account the results of the available research, it is necessary to consider whether the recommendations for endotracheal intubation as a routine method of airway management are not a mistake. The authors of the guidelines are often physicians with many years of experience in endotracheal intubation, for whom a change of approach to airway management could seem difficult.

Do we not err in recommending endotracheal intubation, in which we are sufficiently experienced, unlike other medical personnel? Do we not err, risking a decrease in the neurological prognosis in real cases, where the rescuers lack experience at the level comparable with that of the authors of the guidelines?

Disclosures

None.

Financial support

None.

Conflict of interest

None.

Acknowledgements

None.

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8 October 2018

<https://doi.org/10.1016/j.ajem.2018.10.026>