Letters to the Editor


Reply to Dr Lessire et al

Accepted for publication: July 27, 2016.

To the Editor:

We thank Lessire and associates for their interest in our work. We agree with their first point that a normal activated partial thromboplastin time (aPTT) may not exclude a clinically important effect of dabigatran. The aPTT assay we used (Siemens Dade Actin FS, Malvern, Pennsylvania) is considered a more sensitive assay but there is a need for additional study comparing the sensitivity of different aPTT assays to measure dabigatran’s anticoagulant effect and we are in the process of doing this. Their second point seems to infer that clinicians should rely on a normal thrombin clotting time to exclude a residual anticoagulant effect of dabigatran. However, the thrombin clotting time can be abnormal in patients who likely have a small, clinically unimportant residual anticoagulant effect of dabigatran. We are concerned that measuring such a test may, if abnormal, lead to unnecessary postponement of a surgery/ procedure or, perhaps, inappropriate use of idarucizumab to reverse this presumed anticoagulant effect. As regards their final 2 points, we agree with the need to use an appropriately calibrated dilute thrombin time assay to measure dabigatran’s anticoagulant effect and also agree with their point regarding the interpretation of dabigatran plasma levels when measured using mass spectrometry/high-performance liquid chromatography.

Taken together, the comments by Lessire and associates highlight the urgent need for further real-world clinical research to (a) determine and standardize which tests (and which assay types) are best able to reliably measure the residual anticoagulant effect of dabigatran (and other direct oral anticoagulants) after treatment interruption in patients who require a surgery/ procedure, and (b) to determine what residual anticoagulant levels are clinically important—that is, the level that confers an increased risk for bleeding in a variety of perioperative settings.

James Douketis, MD
Sam Schulman, MD, PhD
Department of Medicine
McMaster University
Hamilton, Ontario, Canada

Summer Syed, MD, MSc
Department of Anesthesiology
McMaster University
Hamilton, Ontario, Canada

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REFERENCES


Use Your EYES

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To the Editor:

We read with great interest the article entitled “Primary failure of thoracic epidural analgesia in training centers: the invisible elephant?” by Tran et al., focusing on the primary failure of thoracic epidurals in teaching centers mainly due to insufficient training, reduced exposure during residency, and lack of supervisors’ experience.

Mastering techniques in our practice is a common goal and should be scored before actually performing any procedure on a patient. Technology and medical industries made huge steps forward developing sophisticated models, manikins, and simulators for every medical scenario, helping trainees and residents the world over increase and master their skills. Despite the undiscussed usefulness of those simulators, a thing to focus on is the practical aspect: they are expensive and not portable, so it is difficult to achieve the 1:1 ratio of the simulators and trainees.

In teaching epidural, we developed a lightweight, small, Easy Yellow ligament Epidural Simulator (EYES). It has the following 2 characteristics:

1. replicable
2. simulates the loss of resistance (LOR).

This simulator is made up of 2 layers of a particular gummy-like sponge (from the package of the Echelon Flex 45; Ethicon Endo-Surgery LLC, Somerville, New Jersey) and a layer of wadding in between (Fig. 1; left). This sponge has almost no leakage of fluid when a forced injection is performed, up to more than 20 psi, tested with the B-Smart Injection Pressure Monitor (B. Braun, Melsungen, Germany) (Fig. 1; upper right). This EYES was tested by skilled physicians in epidurals and they judged the simulator to closely resemble the LOR in a clinical scenario.

Residents and trainees can perform punctures without costs, trying every type of syringe and technique with either air or saline. They can also see how deep the tip of the needle went through the EYES when the LOR is felt, comparing the different techniques and sensations (Fig. 1; lower right).

Our trainees and residents now first experience the LOR technique on this simulator and then perform an ultrasound scan of the spine before performing their first epidural on a patient. This method of training has improved residents’ confidence and allowed teachers to better evaluate their skills before letting them perform a real
FIGURE 1. Left, The simulator is made up of 2 layers of a particular gummy-like sponge and a layer of wadding in between; (upper right) forced injection, with almost no leakage of fluid; (lower right) it is possible to see how deep the tip of the needle went through the EYES when the LOR is felt.

epidural. This tool has no price; “do no harm” is priceless. Use your EYES.

Massimiliano Carassiti, MD, PhD
Romualdo Del Buono, MD
Felice Eugenio Agrò, MD
Unit of Anesthesia
Intensive Care and Pain Management
Department of Medicine
Università Campus Bio-Medico di Roma
Rome, Italy

The authors declare no conflict of interest.

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2. Tran DQH, Van Zundert TC, Aliste J, Engsusophon P, Finlayson RJ. Primary failure of thoracic epidural analgesia (TEA) in teaching centers is not “mainly due to the insufficient training, less exposure during residency, and lack of supervisors’ experience.”3 Primary failure of TEA stems from a terrible triad: difficult anatomy of the thoracic spine, lack of specificity of conventional loss-of-resistance (LOR), and insufficient training.2 Although fluoroscopy/ultrasonography and confirmatory modalities such as epidural waveform analysis can circumvent challenging anatomy and non-epidural LOR, the solution to insufficient training remains a thorny issue.

Compared with their experienced counterparts, novice operators display (expectedly) a higher primary failure rate.1 This can seldom be ascribed to the beginner’s inability to recognize LOR. In fact, the true problem pertains to statistical prevalence and positive predictive value. To maximize the positive predictive value of a nonspecific monitor (eg, LOR), one must increase the prevalence of the studied condition (eg, the epidural space). Because they can circumnavigate the steep angulation of spinous processes (midline technique) and are more adept at interlaminar triangulation (paramedian technique), seasoned epiduralists can position the needle tip in locations where the epidural space is more prevalent, thereby increasing LOR’s predictive value. Thus, teaching models like that of Carassiti et al, which focus exclusively on LOR and purposefully ignore the complex bony interplay of spinous processes and laminae, offer limited pedagogical benefits. In contrast, a model like that of Tsui and Tsui,4 designed to localize the interlaminar windows, adheres more closely to clinical reality: our patients are rarely invertebrate slugs, and the epidural space does not exist in a theoretical vacuum without its bony armor.

Again, we would like to thank Dr Carassiti et al for their comments. However, we urge them to eschew their EYES in favor of HEARTS (a Holistic Epidural Approach to Realistic Training and Simulation).

The authors declare no conflict of interest.

REFERENCES

Reply to Dr Carassiti et al

Accepted for publication: July 20, 2016.

To the Editor:

We thank Dr Carassiti et al1 for their interest in our Daring Discourse,2 and we congratulate them for the simplicity of their teaching model.

Unfortunately, Carassiti et al1 seem to have misinterpreted our findings. Primary failure of thoracic epidural analgesia (TEA) in teaching centers is not “mainly due to the insufficient training, less exposure during residency, and lack of supervisors’ experience.”3 Primary failure of TEA stems from a terrible triad: difficult anatomy of the thoracic spine, lack of specificity of conventional loss-of-resistance (LOR), and insufficient training.2 Although fluoroscopy/ultrasonography and confirmatory modalities such as epidural waveform analysis can circumvent challenging anatomy and non-epidural LOR, the solution to insufficient training remains a thorny issue.

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REFERENCES

The Risk–Benefit Ratio

Why Perform a Cervical Epidural Steroid Injection?

Accepted for publication: June 15, 2016.

To the Editor:

Enyamin et al2 clearly demonstrate that cervical epidural steroid injections (CESIs) can lead to potentially catastrophic