Subomohyoid–Suprascapular *versus* Interscalene Block: Comment

To the Editor:

While we welcome research into regional anesthesia in order to improve the quality of our medical provision, the study by Abdallah *et al.* demonstrates highly relevant problems in research in this area.[1] First, the authors describe the interscalene block as one that poses dangers to certain populations. This may be true for a minority of patients such as those with severe respiratory impairment, but the vast majority of patients are not restricted by any ensuing respiratory compromise. Studies of healthy patients demonstrate that the phrenic nerve palsy is of no clinical relevance.[2] Given that 2.5 yr in three hospitals were required to obtain the 136 patients in this study, there does not appear to be a large group of patients likely to benefit from a new block.

It has to be realized that regional anesthesia provision remains far from universal. Although the interscalene technique has been around for many years and refined with the use of ultrasound, a recent Canadian study demonstrated that only around half of shoulder surgery patients were receiving a nerve block for ambulatory surgery.[3] This is likely much lower in many other health systems. One of the reasons for this is likely a lack of training and confidence of anesthesia providers in performing the block; lack of resources also contributes. Refining blocks further, and in effect making them more difficult, is unlikely to benefit the population as a whole. It needs to become a more significant priority in the provision of regional anesthesia that basic blocks are able to be performed competently by more anesthesiologists rather than the ever increasing number of new blocks with small, unclear benefits.

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Competing Interests

The authors declare no competing interests.

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This letter was sent to the author of the original article referenced above, who declined to respond.—Evan D. Kharasch, M.D., Ph.D., Editor-in-Chief.

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Sparking the Discussion about Vaping and Anesthesia: Comment

To the Editor:

I agree with Drs. Feinstein and Katz that little is known about perioperative vaping.[1] The authors refer to an outbreak of 53 cases of e-cigarette and vaping–related lung injury, in which 84% of the cases admitted to the use of tetrahydrocannabinol products. The remaining 16% may have concealed the use of an illegal product, or not known what they were using. In those cases of e-cigarette and vaping–related lung injury where bronchoalveolar lavage was performed, 100% of the specimens were positive for vitamin E acetate, a dangerous contaminant in tetrahydrocannabinol oil.[2] This outbreak is troubling but it is unrelated to the use of legal nicotine-based vaping products.

They also refer to a letter that raises the hypothetical possibility that an anxious preoperative patient might vape

"lavishly" to the point of nicotine intoxication, which could destabilize the cardiovascular system.[3] However, they do not report any such cases.

Vaping does not involve inhaling smoke, and it is tobacco-free. (Vaping supplies are legally categorized as "tobacco products" only because they may contain nicotine, usually derived from tobacco.) Public Health England estimates that the risk from vaping is unlikely to be more than 5% of the risk of smoking.[4] In assessing the perioperative risks of vaping, anesthesiologists should be aware that vape may contain no nicotine, or it may contain an amount that produces similar blood nicotine levels to cigarette smoke. Vape does not contain carbon monoxide, and the levels of other toxins are 82 to 99% lower than in tobacco smoke.[5]

Preoperatively, anesthesiologists should ask patients about smoking, vaping, and the use of cannabis and illegal drugs. Current vapers may have quit smoking but still suffer residual ill health due to their previous tobacco use. There is evidence that smokers benefit from switching to nicotine replacement therapy 6 to 8 weeks before surgery. Vaping can be considered a form of nicotine replacement therapy and therefore may be beneficial for smokers undergoing surgery. Patients who are addicted to nicotine, either from smoking or from vaping, should be offered nicotine replacement therapy while they are confined to a "No Smoking/No Vaping" area such as a hospital.

E-cigarettes were patented in 2004, and there are now 42 million vapers globally, but I have been unable to find any reports of anesthesia complications due to vaping. Research is needed so that we can base our discussion of the risks of perioperative vaping on real data rather than supposition.

Competing Interests

The author declares no competing interests.

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Sparking the Discussion about Vaping and Anesthesia: Reply

In Reply:

We appreciate the letter by Dr. Oyston.[1] We do not dispute that the dangers posed by vitamin E acetate are unrelated to the use of nicotine-based vaping products. This was not the purpose of our letter.[2] What is troubling, however, is that many unregulated vaping products containing dangerous contaminants have been widely available and were implicated in over 50 deaths in 2019.[3] Our goal was to highlight for anesthesiologists, particularly in the United States, that patients may be ingesting dangerous vaping products and that this information may be important to consider before surgery. To our knowledge, many anesthesiologists do not routinely ask specifically about vaping, and people who vape often believe it to be distinctly different from cigarette smoking. As such, when asked about smoking, many would simply say no.

While our originally published comment did not address whether e-cigarettes/vaping may be an effective harm reduction strategy, it is worth pointing out that the quality of evidence for e-cigarettes/vaping as effective smoking cessation alternatives is "very low to low."[4] Moreover, the potential for e-cigarettes/vaping as a harm reduction tool is generally most applicable to older people unwilling to quit combustible tobacco, as opposed to younger people who never used combustible tobacco in the first place.[5] Of note, this younger population has been disproportionately represented among those patients who were hospitalized and died during the e-cigarette or vaping–associated lung injury outbreak in the United States in 2019.[6]

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The authors declare no competing interests.

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Distribution of Ventilation in Pneumoperitoneum: Comment

To the Editor:

We read with great interest a very informative and well-conducted study by Shono *et al.* titled "Positive End-expiratory Pressure and Distribution of Ventilation in Pneumoperitoneum Combined with Steep Trendelenburg Position" published in the Journal.[1] The study has objectively shown that application of positive end-expiratory pressure (PEEP) of 15 cm H_2O resulted in more homogeneous ventilation and favorable pulmonary physiologic effects during robot-assisted laparoscopic prostatectomy, but did not improve postoperative lung function. Whereas that authors have focused on the beneficial pulmonary effects of high PEEP values, the article would benefit readers considerably if the authors could address its potential ill effects on some other organ systems.

In this regard we wish to highlight our concern regarding application of high PEEP on intracranial pressure (ICP) in patients given a steep Trendelenberg position. It is known that ICP rises rapidly with pneumoperitoneum and this increase is more pronounced due to the effects of gravity in patients assuming the head-down Trendelenburg position.[2,3] Increased intraabdominal pressure displaces the diaphragm cranially, narrowing the inferior vena cava and decreasing venous return which, in turn, increases the ICP.[3] The high intrathoracic pressures due to positive pressure ventilation and high intraabdominal pressure due to pneumoperitoneum cause a triple compartment syndrome because of an increase in ICP. In susceptible populations such as patients with head injuries or patients who have undiagnosed intracranial pathology, neurologic deterioration could be a concern. Clinically, even minor adverse effects of raised ICP may present in different ways.[4] In a study by Cooke *et al.,* headache and nausea were found to be significantly higher after laparoscopic abdominal surgery, possibly due to raised ICP.[4]

Shono *et al.* have reported that phenylephrine requirement in the high PEEP group was significantly greater than in the normal PEEP group. For maintenance of cerebral perfusion pressure, a higher mean arterial pressure should have been targeted in view of the raised ICP. The authors have reported a raised arterial carbon dioxide of 49 ± 5 mm Hg which may also have detrimental effect on the ICP. Adjusting the respiratory rate to normalize the end tidal carbon dioxide could have been considered in the study design. In susceptible individuals, surgeries lasting 484 ± 81 min with a persistently high ICP resulting from a high PEEP of 15 cm H_2O could result in a greater incidence of complications. These complications should be investigated before we can recommend universal application of a high PEEP in all patients. Prospective authors planning similar studies could consider adding incidence of adverse effects on ICP or intraocular pressure as one of their secondary objectives; otherwise, they could include these concerns as limitations of their study.

Competing Interests

The authors declare no competing interests.

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