LETTER TO EDITOR

Submitted: 02 Feb 2026
Revised: 10 Mar 2026
Accepted: 18 Mar 2026
Published: 15 May 2026

Access This Artile Online

Website:
theanaesthesiologist.com

USG in Anaesthesiology - A necessity?

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How to cite this article: Lima P. USG in Anaesthesiology - A necessity?. TAISAK 2026; 2(1): 59-60

Sir,

The discovery of ultrasound has revolutionized the practice of anaesthesiology. Over the past few years, we have witnessed many promising changes brought by the introduction of ultrasound into our practice. We share a few experiences of using ultrasound in our operating rooms that improved the quality of care in our patients.

Ultrasound is a safe, relatively inexpensive, portable and easily accessible imaging modality. The applications of ultrasound in the field of anaesthesiology are numerous 1.

Historically, many procedures in anaesthesia relied on anatomical landmarks and tactile cues. These often resulted in low success rates and higher rate of complications. The advent of ultrasound has enabled us in real time imaging, thereby improving procedural success, reducing complication rates, decreasing procedure time and ensuring patient safety 2.

We encounter various emergency situations such as hypoxia, hypotension, dyspnoea and cardiac arrest that warrant the use of ultrasound. Using ultrasound, we secure vascular access in patients with trauma and sepsis and other high -risk patients requiring perioperative hemodynamic monitoring with high success rates and without complications. Ultrasound guidance has improved the success and safety of our peripheral nerve blocks. We could reduce the dose of local anaesthetic used and the onset of block was faster with higher success rate and lower risk of nerve injury3.

Ultrasound assist us in identifying anatomical landmarks during spinal and epidural anaesthesia thus reducing the number of needle attempts and increasing the success rates. Nowadays, the number of obese patients has significantly increased. In such patients , ultrasound help us in securing venous access, assessing the airway and performing neuraxial procedures with ease4.

The use of laryngeal ultrasound helps us to detect patients at risk of developing stridor post extubation by evaluating peri-cuff airflow. Ultrasound also help us to assess subglottic diameter to calculate appropriate endotracheal tube size. Ultrasound is also used to visualize CSF leak in cases of PDPH and in epidural blood-patch application under real time depiction. It also helps in doing pain relieving procedures in patients with chronic pain.

We use ultrasound to evaluate airway anatomy and predict difficult airway situations. POCUS (Point- of -care-ultrasound) is increasingly used in critical care settings to assess the cardiac function, to evaluate the volume status, lung ultrasound for pleural effusion, pneumothorax and gastric ultrasound for

for aspiration risk assessment5.

If complications occurred during blind procedures, the anaesthesiologist would face medicolegal consequences. So proper documentation that the procedures were done under USG guidance is also important.

These experiences bring us to an undeniable conclusion that the use of ultrasound in anaesthesia definitely improves the quality of care. Like laryngoscope and suction apparatus, ultrasound has become a necessity in the operating room and not luxury. Nowadays, AI powered ultrasound applications have come up. We need to develop a thorough understanding of this technology and learn practical skills to master them6.

Ultrasound being the third eye of the anaesthesiologist, in the near future, we may need to carry a portable ultrasound around our neck instead of a stethoscope!

DISCUSSION

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