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Editorial

Point-of-care ultrasonography for anesthesiologists☆

Ecografía al lado de la cama del paciente para anestesiólogos

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Point-of-care ultrasonography (POCUS) is performed and interpreted by the clinician at the bedside, allowing real time findings, clinical correlation with the patient signs and symptoms, and dynamic images that are repeatable if the patient's condition changes.[1] This practice has increased dramatically in the last 20 years, achieving the involvement of multiple specialties beyond the traditional repositories of this diagnostic tool. Although the development and progress in technology have been critical factors in this growing trend, not until a change in mindset matures in a particular specialty will we really encounter a paradigm shift. From Obstetrics and Gynecology to Nephrology, Pulmonary Medicine to Rheumatology, Trauma Surgery to Neonatology, and many more have witnessed the advancement of this trend in modern medicine. The utility of POCUS has been characterized in areas of diagnostics, procedural–interventional and screening, which must be customized to the particular needs of the specialty. In the field of Acute Care Medicine (Emergency Medicine, Critical Care and Anesthesiology), the growing interest in POCUS portrays a future where the practice of bedside ultrasound will be integrated into the everyday clinical practice as *ultrasound-assisted examination* and *ultrasound-guided procedures*.[2] In this context, US has to be approached as part of everyday practice rather than as a separate US exam.[3] In order to successfully advance this new approach, the change in mindset will have to incorporate early interventions in undergraduate and medical schools. In 2006, the University of South Carolina, School of Medicine introduced an integrated ultrasound curriculum across all 4 years of medical school. Such experience depicts the feasibility and acceptance from teachers and learners.[4,5] More recently a pilot ultrasound curriculum was introduced in Harvard Medical School. The main purpose was to integrate US into the teaching of physical examination. Their perspective aims to train a generation of physicians that will need to view this technology as an extension of their senses, just as many generations have viewed the stethoscope.[6]

Although anesthesiologists have been instrumental in the development of perioperative ultrasound over the last 30 years, in areas such as intraoperative transesophageal echocardiography, ultrasound-guided vascular access, and ultrasound-guided regional anesthesia, current involvement goes beyond that traditional scope.[7] The evolution in regional blocks,[8] the teaching of focus transthoracic echocardiography,[9,10] the growing interest in lung ultrasound,[11] the novelty of bedside ultrasound assessment of gastric contents[12–15] and any new US application demands a good level of evidence supporting its validity and utility in clinical practice. The evidence-based continuum requires

answering three main questions: Is diagnosis improved? – (diagnostic accuracy); does improved diagnosis lead to change in decision-making?; and do changes in decision-making lead to better patient outcome? Although there are many more questions and controversies, current trends are definitely conforming the way we practice anesthesiology, and foremost bedside ultrasound is becoming the next step in perioperative care[16] that we may need to embrace progressively in the following years.

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Conflict of interest

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