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Ultrasound in critical obstetric situations: The role of the anesthesiologist

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Anesthesiologists play a key role in the management of high risk pregnancies. The admission of obstetric patients to intensive care facilities in the developed world occurs approximately 2 to 4 per 1000 deliveries. Traditionally, extreme perturbations of organ dysfunction in obstetric critical illness have occurred on a background of previous excellent health and large physiological reserve. However, modern maternal characteristics including morbid obesity, congenital and acquired cardiac disease, increasing age and assisted reproduction mean that diagnostic dilemmas may occur leading to clinical uncertainty. Anesthesiologists require quick and accurate diagnostic tools for the effective management of emergencies. Ultrasound is a safe and easily accessible point-of-care imaging modality. Advances in device portability, ease of use, connectivity and data storage in combination with reduced size, weight and increased durability and battery life, now enable ultrasound to be used in a range of clinical settings. Echocardiography may be used for obstetric applications in routine locations such as birthing suite, emergency department, operating room, postanesthesia care unit and intensive care unit. It provides qualitative and quantitative data comprising left and right ventricular systolic and diastolic function, ventricular filling and contractility information. One of the main advantages of anesthesiologist-performing echocardiography is that it gives him who asks a clinical question the ability to answer it and then measuring responses to interventions at the point of patient care. The use of echocardiography for the evaluation of hypotension, shock or hemodynamic instability of uncertain or suspected cardiac etiology meets the highest level of appropriateness or Class I recommendations according to American, British and European Guidelines. In addition, lung ultrasonography is becoming a standard tool in critical care. Accurate bedside detection of thoracic disorders should help diagnose acute respiratory failure. In this lecture, the author will report cases highlighting the usefulness of ultrasound in the obstetric setting such as cardiac failure, embolism, respiratory failure, etc.

Biography

Yaacov Gozal, He is an Associate Professor of Anesthesiology at the Hebrew University, Jerusalem. He is the Chair of the Department of Anesthesiology, Perioperative Medicine and Pain Treatment and Director of the operating rooms at Shaare Zedek Medical Center, Jerusalem, Israel. He has published more than 100 peer reviewed papers and serves as an editorial board member of the Journal of Pharmacology and Toxicology.

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