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REVIEW

Summary of article - Limitations of POCUS Examination: Be Aware of Overdiagnosis and Undertreatment

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The article discusses the increasingly widespread use of point-of-care ultrasound (POCUS), a valid and important tool for clinical diagnosis and management. However, as it becomes more accessible, there is a risk of a trend toward overdiagnosis and undertreatment, highlighting the need for more judicious use of this tool.

POCUS is a portable, easily movable resource widely used at the bedside for clinical assessment. It can rapidly provide information about pulmonary, cardiac, and gastrointestinal anatomy and pathology, as well as guide vascular procedures and aid in the management of trauma patients in emergency settings. On the other hand, broad access to this device by physicians without adequate training may lead to overuse, resulting in excessive confidence in diagnosing various clinical conditions. There is growing concern that patient evaluation may become more dependent on imaging than on actual clinical assessment, especially with widespread use without proper competence. POCUS imaging is real-time, ultrasound probes tend to be inferior, and the failure to save acquired images may hinder interpretation—even for more experienced radiologists.

Despite the increase in diagnostic speed and accuracy, POCUS use has not led to significant differences in patient outcomes. The article cites limitations of gastric POCUS, for example, in which its use to assess gastric content volume in emergency surgeries does not appear to reduce perioperative gastric aspiration during anesthesia, nor does it influence decisions regarding postponing anesthetic procedures. Another example is cardiac POCUS (bedside echocardiography), in which practitioners must understand the limits of its use and when to switch to a full echocardiogram performed by specialists for proper interpretation of cardiac pathologies.

Although POCUS may have high diagnostic precision, care must be taken to ensure its interpretation does not overshadow clinical history, physical examination, and other imaging methods more appropriate for each patient, avoiding excessive diagnoses of incidentalomas, for example, which may even divert attention from the patient's main clinical issue. This raises the question: in which clinical scenarios does POCUS truly contribute to reducing morbidity and mortality?

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Similarly, excessive reliance on POCUS as a diagnostic method—undervaluing a patient's clinical history and physical examination—can lead to incorrect or insufficient treatment of the actual underlying condition. The article presents two studies showing that POCUS use in critically ill patients not only failed to improve therapeutic management but also delayed the start of appropriate treatment, increasing mortality. A systematic review showed that although POCUS led to more accurate shock diagnoses, it did not result in differences in final management with fluids, vasopressors, or inotropes. Another study, a randomized clinical trial, demonstrated that POCUS use delayed the initiation of critical care interventions, such as fluid resuscitation, chest compressions, and advanced airway access

In anesthetic practice—another example discussed—evidence supporting POCUS as an additional diagnostic tool is lacking, especially considering the difficulty in defining which patients benefit from such screening, limited training, and the lack of standardized protocols. The use of POCUS in the post-anesthesia care unit did not reduce length of stay or readmission rates. Multicenter controlled clinical trials are needed to determine where POCUS fits within anesthetic care, taking into account access to other imaging methods and both invasive and noninvasive monitoring.

Indiscriminate POCUS use may also result in medicolegal consequences, with its widespread application increasing the number of overdiagnoses, misinterpreted findings, delays in communication and treatment, failure to perform complete ultrasonography when needed, and operator-related issues such as improper transducer selection and inadequate image acquisition

Recently, there has been growing momentum toward early integration of POCUS training in residency programs in cardiology, anesthesiology, emergency medicine, and even internal medicine and pediatrics. However, achieving consistent, longitudinal, and structured training still faces multiple limitations. National and institutional support is needed to ensure physicians are competent in using this rapidly expanding tool

In conclusion, unregulated use of POCUS in clinical practice may create a false sense of security in guiding diagnosis and treatment, reducing quality of care and minimizing the value of clinical judgment through history-taking and physical examination, which remain fundamental in medical practice. Additionally, inappropriate replacement of other imaging methods may compromise timely initiation of adequate therapy. Establishing and standardizing a mandatory curriculum to ensure longitudinal education in POCUS, as well as creating institutional guidelines, is essential so that this method—combined with other available clinical tools—can enhance diagnostic accuracy and optimize patient management across different clinical conditions.

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