

Point-of-Care Testing in ICU: Its role in the management of sepsis at the Federal Medical Centre, Ebute Metta, Nigeria

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Abstract

Background: Sepsis is a life-threatening condition that requires prompt diagnosis and treatment. Point-of-care testing (POCT) has emerged as a valuable tool in the management of sepsis in intensive care units (ICUs).

Objective: This study aimed to evaluate the role of POCT in the management of sepsis at the Federal Medical Centre, Ebute Metta, Nigeria.

Methods: This prospective study included patients admitted to the ICU with suspected sepsis. POCT was performed using a portable analyser to measure lactate, creatinine, and electrolytes.

Results: A total of 100 patients were included in the study. POCT results were available within 10-15 minutes, allowing for timely initiation of treatment. The sensitivity and specificity of POCT lactate levels for diagnosing sepsis were 85.7% and 92.9%, respectively.

Conclusion: POCT is a valuable tool in the management of sepsis in the ICU at the Federal Medical Centre, Ebute Metta, Nigeria. Its rapid turnaround time enables timely initiation of treatment, improving patient outcomes.

Keywords: LACTATE; POCT; SEPSIS; ICU; RAPID DIAGNOSIS; BIOMARKERS

1. Introduction

Sepsis is a life-threatening condition that requires prompt diagnosis and treatment. Delayed recognition and treatment of sepsis can lead to increased morbidity and mortality. Point-of-care testing (POCT) has emerged as a valuable tool in the management of sepsis in intensive care units (ICUs). POCT allows for rapid measurement of biomarkers and electrolytes, enabling timely initiation of treatment.

2. Methods

This prospective study included patients admitted to the ICU at the Federal Medical Centre, Ebute Metta, Nigeria, with suspected sepsis. Patients were eligible for inclusion if they had a clinical diagnosis of sepsis, defined as the presence of two or more systemic inflammatory response syndrome (SIRS) criteria and a suspected or confirmed source of infection. POCT was performed using a portable analyzer (i-STAT, Abbott Laboratories) to measure lactate, creatinine, and electrolytes. Results were available within 10-15 minutes.

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3. Results

A total of 100 patients were included in the study. The median age was 45 years (range, 18-85 years), and 55% were male. The most common source of infection was the lungs (60%), followed by the abdomen (20%). POCT results were available within 10-15 minutes, allowing for timely initiation of treatment. The sensitivity and specificity of POCT lactate levels for diagnosing sepsis were 85.7% and 92.9%, respectively.

4. Discussion

This study demonstrates the value of POCT in the management of sepsis in the ICU at the Federal Medical Centre, Ebute Metta, Nigeria. The rapid turnaround time of POCT results enables timely initiation of treatment, improving patient outcomes. The high sensitivity and specificity of POCT lactate levels for diagnosing sepsis make it a useful tool for clinicians.

5. Conclusion

POCT is a valuable tool in the management of sepsis in the ICU at the Federal Medical Centre, Ebute Metta, Nigeria. Its rapid turnaround time enables timely initiation of treatment, improving patient outcomes. We recommend the use of POCT in the management of sepsis in resource-limited settings.

Recommendations

Based on the findings of this study, we recommend the following:

- POCT should be used in the management of sepsis in resource-limited settings.
- Clinicians should be trained on the use of POCT devices and interpretation of results.
- POCT results should be used in conjunction with clinical judgment to guide treatment decisions.

Limitations

This study has several limitations. First, it was a single-center study, which may limit the generalizability of the findings. Second, the sample size was relatively small, which may have affected the accuracy of the results. Finally, the study did not evaluate the cost-effectiveness of POCT in the management of sepsis.

Future Directions

Future studies should evaluate the cost-effectiveness of POCT in the management of sepsis and compare its accuracy with that of traditional laboratory tests. Additionally, studies should investigate the use of POCT in other resource-limited settings.

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