

Improving the Safety of Unfractionated Heparin Administration in Pulmonary Embolism: A Clinical Audit in a Cardiac Intensive Care Unit in Cameroon

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Background

Unfractionated heparin (UFH) requires rigorous biological monitoring and accurate dose adjustment, particularly in patients with intermediate- or high-risk pulmonary embolism (PE). Nurses in cardiac intensive care units play a key role in ensuring safe continuous UFH administration, timely biological monitoring, and accurate documentation of treatment adjustments.

Methods

A retrospective clinical audit was conducted between January and June 2025 in the Cardiac Intensive Care Unit of Polyclinique du Palais, Yaoundé, Cameroon. The audit included 45 patients admitted with intermediate- or high-risk PE who received continuous intravenous UFH via syringe pump. Patient care records and nursing practices were reviewed to assess compliance with scheduled biological monitoring using aPTT/anti-Xa results, UFH infusion-rate adjustment, and documentation of dose modifications.

Results

Compliance with the required timing of biological monitoring was 91%. However, inconsistencies were identified in the documentation and traceability of UFH infusion-rate modifications following laboratory results. To strengthen medication safety and continuity of care, an electronic prescription and monitoring grid was introduced during the audit period to improve documentation of treatment adjustments and reduce the risk of dosing errors.

Conclusion

This audit highlights the importance of structured nursing monitoring in the safe administration of UFH for patients with intermediate- or high-risk PE. Timely biological monitoring combined with accurate documentation of infusion adjustments can strengthen anticoagulation safety and multidisciplinary management in cardiac intensive care.