Determining weight-bearing tissue condition using peak reactive hyperemia response trend and ultrasonographic features: implications for pressure ulcer prevention

ABSTRACT

Background: Underestimation of leptospirosis cases is happening in many countries. The most common factor of underreporting is misdiagnosis. Considering the limitations of direct detection of pathogen and serological diagnosis for leptospirosis, clinical features and blood tests though non-specific are usually referred in making presumptive diagnosis to decide disease management. Methods: In this single-centre retrospective study, comparative analysis on clinical presentations and laboratory findings was performed between confirmed leptospirosis versus non leptospirosis cases. Results: In multivariate logistic regression evidenced by a Hosmer-Lemeshow significance value of 0.979 and Nagelkerke R square of 0.426, the predictors of a leptospirosis case are hypocalcemia (calcium <2.10mmol/L), hypochloremia (chloride <98mmol/L), and eosinopenia (absolute eosinophil count <0.040×109/L). The proposed diagnostic scoring model has a discriminatory power with area under the curve (AUC) 0.761 ($p<0.001$). A score value of 6 reflected a sensitivity of 0.762, specificity of 0.655, a positive predictive value of 0.38, negative predictive value of 0.91, a positive likelihood ratios of 2.21, and a negative likelihood ratios of 0.36. Conclusion: With further validation in clinical settings, implementation of this diagnostic scoring model is helpful to manage presumed leptospirosis especially in the absence of leptospirosis confirmatory tests.