Procalcitonin: a marker for predicting the risk lower extremity amputation in infected wounds

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Abstract

Diabetes Mellitus is a metabolic disorder that is growing at epidemic proportions worldwide and is consensually classified in type 1 Diabetes, type 2 Diabetes and Gestational Diabetes (1). One of the most common complication of diabetes is the lower extremity is the diabetic foot ulcer (DFU). Diabetes is also the most common cause of lower extremity amputation (LEA). Several foot disorders, such as foot ulcerations and infections are a major source of morbidity and a leading cause of hospitalization for persons with diabetes. Thus, ulceration, infection, gangrene, and limb amputation are major complications of the disease, estimated to cost billions of dollars each year and have attracted the attention of health policy providers (2, 3).

The most common single precursor to lower extremity amputations among person with diabetes is the foot ulceration and the treatment of the infected foot wound represents one quarter of diabetic hospital admissions. The risk calculation and prediction LEA rely on stratified systems to be applied in the clinical practice. The several clinical valuable systems used to stratify subjects with DFU by risk of consequent LEA present overall substantial accuracy values. However, authors consider better for implementation in daily clinical care those that use fewer easy to use dichotomic variables (4,5).

Decision-making tools for the management of lower extremity infections are typically depend on inflammatory markers. Such markers rely basically on the white blood cell count, erythrocyte sedimentation rate, and C-reactive protein which are used to earlier assess DFU patients and/or to monitor the progression of medical or surgical therapy. Initially, procalcitonin was used to monitor

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antibiotic therapy patients in the intensive care setting but now procalcitonin as being revealed useful as a new inflammatory marker that is specific for an infectious course (5,6).

In the present project we pretend to evaluate the predicting value of procalcitonin as biochemical marker for the prediction of risk of amputation and study its significance as an additional parameter for a clinical estimation tool regarding risk assessment.

Keywords

Procalcitonin; Type 2 Diabetes; Lower Extremity Amputation (LEA); LEA Risk Assessment; Diabetic foot infection;

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