



RESEARCH ARTICLE

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Biochemical predictors of diabetic foot osteomyelitis: A potential diagnostic role for parathormone

Paola Caruso^{1,2}  | Maria Ida Maiorino^{1,2}  | Lorenzo Scappaticcio¹ | Chiara Porcellini^{1,2} | Rita Matrone^{1,2} | Paolo Cirillo¹ | Margherita Macera³ | Maurizio Gicchino^{1,2} | Maria Teresa Vietri⁴ | Giuseppe Bellastella^{1,2} | Nicola Coppola³ | Katherine Esposito^{1,2}

¹Department of Advanced Medical and Surgical Sciences, University of Campania "Luigi Vanvitelli", Naples, Italy

²Unit of Endocrinology and Metabolic Diseases, University of Campania "Luigi Vanvitelli", Naples, Italy

³Infectious Diseases Unit, Department of Mental Health and Public Medicine, University of Campania "Luigi Vanvitelli", Naples, Italy

⁴Unit of Clinical and Molecular Pathology, Department of Precision Medicine, University of Campania "Luigi Vanvitelli", Naples, Italy

Correspondence

Paola Caruso, Unit of Endocrinology and Metabolic Diseases, PhD Program in Translational Medicine, Department of Advanced Medical and Surgical Sciences, University of Campania "Luigi Vanvitelli", Piazza Miraglia 2, 80138 Naples, Italy. Email: paola.caruso@unicampania.it

Abstract

Aims: The aims of this study were to evaluate parathormone (PTH) levels in people with diabetic foot ulcers (DFU) and investigate the relationship between PTH levels and osteomyelitis (OM) in this population.

Materials and Methods: Eighty-eight patients were admitted for DFU in a tertiary-care centre from October 2021 to May 2022. OM was diagnosed by clinical, laboratory, and radiological evaluations. Laboratory measurements and clinical parameters were collected from medical records. Participants in the study were divided into two groups according to the diagnosis of OM (patients with OM, group 1 [$n = 54$] and patients without OM, group 2 [$n = 34$]).

Results: Compared with group 2, patients in group 1 were younger and had a longer duration of diabetes. Erythrocyte sedimentation rate and fibrinogen were significantly higher in group 1 compared with group 2. PTH levels were significantly lower (group 1 vs. group 2, median [interquartile range] 16.2 (11.6, 31.0) vs. 23.7 (17.0, 38.1), $p = 0.008$) and alkaline phosphatase was significantly higher (97.0 (79.0, 112.0) vs. 88.0 (63.0, 107.0), $p = 0.031$) in group 1. In multiple linear regression analysis, the only independent predictors of PTH concentrations were alkaline phosphatase levels (β -coefficient 0.441, $p < 0.001$) and the presence of OM (β -coefficient -0.290 , $p = 0.038$).

Conclusions: In a population of patients with diabetes and OM admitted to a tertiary university centre, PTH levels were lower as compared with diabetic individuals without OM. The OM and alkaline phosphatase levels were independent predictors of PTH levels in this selected population.

KEYWORDS

diabetic foot ulcer, osteomyelitis, parathormone, tertiary-care centre, type 2 diabetes