

The Value of Serum Procalcitonin in Patients with Acute Musculoskeletal Infections

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Abstract : Background: Early diagnosis of musculoskeletal infections is of vital importance to avoid devastating complications. There is no single laboratory marker which is sensitive and specific in diagnosing these infections accurately. White blood cell count, erythrocyte sedimentation rate, and C-reactive protein are not specific as they can also be elevated in conditions other than bacterial infections. Materials Culture and sensitivity is not a true gold standard due to its varied positivity rates. Serum Procalcitonin is one of the new laboratory markers for pyogenic infections. The objective of this study is to assess the value of PCT in the diagnosis of soft tissue, bone, and joint infections. Patients and Methods: Patients of all age groups (seventy-four patients) with a diagnosis of musculoskeletal infection are prospectively included in this study. All patients were subjected to White blood cell count, erythrocyte sedimentation rate, C-reactive protein, and serum Procalcitonin measurements. A healthy non infected outpatient group (twenty-two patients) taken as a control group and underwent the same evaluation steps as the study group. Results: The study group showed mean Procalcitonin levels of 1.3 ng/ml. Procalcitonin, at 0.5 ng/ml, was (42.6%) sensitive and (95.5%) specific in diagnosing of musculoskeletal infections with (positive predictive value of 87.5% and negative predictive value of 48.3%) and (positive likelihood ratio of 9.3 and negative likelihood ratio of 0.6). Conclusion: Serum Procalcitonin, at a cut - off of 0.5 ng/ml, is a specific but not sensitive marker in the diagnosis of musculoskeletal infections, and it can be used effectively to rule in the diagnosis of infection but not to rule out it.

Keywords : procalcitonin, infection, laboratory markers, musculoskeletal

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