

Serum inflammatory markers in osteomyelitis-a prospective study N. Tentolouris^a, E. Jude^b, C. Liaskos^a, M. Michail^a, S. Karamagkiolis^{aa} 1st Department of Propaedeutic and Internal Medicine, Athens University Medical School, Laiko General Hospital, Athens, Greece ^bTameside General Hospital, Fountain Street, Ashton-Under-Lyne, Lancashire, UK

Background-Aims: Serum inflammatory markers like C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), white blood cellcount (WBC), and procalcitonin (PCT) have been used for the diagnosis of patients with diabetic foot infections. However, little is known about the performance of these markers for the diagnosis and follow-up of patients with osteomyelitis. In the present prospective study we examined the performance of these markers for the diagnosis and follow-up of patients with osteomyelitis. **Materials and Methods:** A total of 61 patients (age 63.1 ± 7.0 years, 45 men and 16 women, 7 with type 1 and 54 with type 2 diabetes) with untreated foot infection (34 with soft tissue infection and 27 with osteomyelitis) were recruited. Diagnosis of osteomyelitis was based on clinical examination and was confirmed by imaging studies (X-ray, scintigraphy, MRI). Determination of the inflammatory markers was performed at baseline, after 1 and 3 weeks and after 3 months of treatment. **Results:** At baseline, the values of CRP, ESR, WBC and PCT were significantly higher in patients with osteomyelitis than in those with soft tissue infections. The sensitivity and specificity for the diagnosis of osteomyelitis of CRP (cut-off value >14 mg/l) were 0.85 and 0.83, of ESR (cut-off value >67 mm/h) 0.84 and 0.75, of WBC (cut-off value >14.000) 0.74 and 0.82, and of PCT (cut-off value >0.30 ng/ml) 0.81 and 0.71. All values declined after initiation of treatment with antibiotics; the WBC, CRP and PCT values returned to near-normal levels by day 21 in both groups, while the values of ESR remained high until month 3 only in patients with bone infection. **Conclusion:** All inflammatory markers have adequate performance for the diagnosis of osteomyelitis; ESR is the best marker for the follow-up of patients with osteomyelitis.