1424. Association Between Erythrocyte Sedimentation Rate (ESR) Change and Treatment Failure in Patients with Osteomyelitis

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Background. Erythrocyte sedimentation rate (ESR) is monitored during therapy for osteomyelitis (OM) but the degree of reduction associated with treatment success remains unclear.

Methods. This retrospective cohort study evaluated patients treated for at least 2 weeks with intravenous (IV) antibiotics for OM through the VA St. Louis HCS from 1 January 2010 to 1 January 2018 with at least 2 ESR values during their therapy. Patients were excluded if they had comorbidities that could cause elevations in ESR. The primary outcome was the degree of reduction in ESR failure in patients achieving ≥50% decrease in ESR from baseline compared with those without a 50% decrease. Treatment failure was defined as a need for unplanned surgical intervention or re-initiation of antibiotic therapy for OM of the same anatomical site within 6-months after initial therapy was discontinued. The presence of diabetes, peripheral vascular disease (PVD), age >70, baseline creatinine clearance (<50 mL/minute), surgical intervention as part of initial therapy, and ESR reduction ≥50% from baseline were included in a univariate analysis with variables with a P < 0.2 included in a multivariate logistic regression model.

Results. A total of 143 patients were included; 74 patients with a ≥50% decrease in ESR and 69 patients with a decrease <50%. Mean initial ESRS were not different between groups (79.5±31 vs. 79.9 ± 32 mm/hour, P = 0.95), but end-of-treatment values were significantly higher in the <50% reduction group vs. ≥50% (20.6 ± 14 vs. 72.4 ± 42 mm/hour, P = 0.05, respectively). There were no baseline differences between groups in regards to age, rates of diabetes, PVD, GFR < 50 mL/min, initial surgical therapy management, or definitive or empiric therapy. Thirty percent (22/74) of patients with a ≥50% reduction in ESR failed treatment vs. 55% (38/69) in patients with a <50% reduction (P = 0.01). Only ESR reduction of ≥50% met criteria for inclusion in the multivariate regression model and was associated with a 65.5% relative risk reduction in treatment failure (OR 0.345; 95% CI 0.173–0.687; P = 0.002).

Conclusion. Achieving an ESR reduction of ≥50% from baseline during treatment for OM was independently associated with a significant reduction in risk of treatment failure.

Disclosures. All authors: No reported disclosures.

1425. Treatment Outcomes In Patients with Pyogenic Vertebral Osteomyelitis Who Have Cirrhosis

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Background. The mortality in liver cirrhosis was reported to be greater than that in the five major cancers. Infection further increases the mortality of patients with cirrhosis by four fold. Considering the greatly increased mortality from infection in patients with cirrhosis, early diagnosis and prompt treatments should be compulsory to save patients’ lives. However, adherence to such basic principle for patients with cirrhosis is not easy for clinicians engaged in the treatment of pyogenic vertebral osteomyelitis (PVO). Therefore, the mortality rate is expected to be high. However, no reports have described the mortality rate in this patient group.

Methods. A retrospective study was conducted to investigate the treatment outcome in PVO patients with cirrhosis, and to identify the predictors of their mortality. Mortality was divided into two categories, 30-day and 90-day mortality. A stepwise multivariate logistic regression model was used to identify predictors of mortality. Due to high mortality rate, the clinical outcome was investigated in patients with at least 90-day survival.

Results. Eighty-five patients were included. Seventy-four patients with ≥50% decrease in ESR and 59 patients with a decrease <50%. Mean initial ESRs were not different between groups (79.5±31 vs. 79.9 ± 32 mm/hour, P = 0.95), but end-of-treatment values were significantly higher in the <50% reduction group vs. ≥50% (20.6 ± 14 vs. 72.4 ± 42 mm/hour, P = 0.05, respectively). There were no baseline differences between groups in regards to age, rates of diabetes, PVD, GFR < 50 mL/min, initial surgical therapy management, or definitive or empiric therapy. Thirty percent (22/74) of patients with a ≥50% reduction in ESR failed treatment vs. 55% (38/69) in patients with a <50% reduction (P = 0.01). Only ESR reduction of ≥50% met criteria for inclusion in the multivariate regression model and was associated with a 65.5% relative risk reduction in treatment failure (OR 0.345; 95% CI 0.173–0.687; P = 0.002).

Conclusion. Achieving an ESR reduction of ≥50% from baseline during treatment for OM was independently associated with a significant reduction in risk of treatment failure.

Disclosures. All authors: No reported disclosures.

1426. Outcomes of Additional Instrumentation in Elderly Patients with Pyogenic Vertebral Osteomyelitis and Previous Spinal Instrumentation

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Background. In patients with pyogenic vertebral osteomyelitis (PVO) and previous instrumentation requiring surgical treatment, a decision must be made between a less invasive non-instrumented surgery, including retaining the previous instrumentation, or a more invasive additional instrumented surgery involving the complete removal of the infected tissue and firm re-stabilization.

Methods. A retrospective cohort study (case–control study) was planned to evaluate the clinical outcomes of using additional instrumentation in patients with PVO and previous instrumentation. Patients were divided into two groups (instrumented or non-instrumented) according to the presence or absence of additional instrumentation. The baseline characteristics, infection profile, and treatment outcomes were compared between the two groups, and a multivariate logistic regression analysis was performed to identify the risk factors for infection recurrence.

Results. A total of 187 postoperative patients with PVO and previous spinal instrumentation were included. There were no significant differences in the baseline characteristics except the presence of a titanium cage. Surgery for additional instrumentation in patients with PVO and previous instrumentation showed similar rates of infection recurrence and mortality compared with non-instrumented surgery despite a larger number of involved vertebral levels and greater incidence of epidural abscesses (Table 1). However, instrumented patients with PVO and previous instrumentation were