Title: Evaluation of staphylococcal super Antigen amount (ELISA; SEA, SEB, SEC, TSST1) in synovial fluid of patients with reactive arthritis

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Abstract: Evaluation of staphylococcal super Antigen amount (ELISA; SEA, SEB, SEC, TSST1) in synovial fluid of patients with reactive arthritis

Objectives: to determine the staphylococcal super Antigens (ELISA; SEA, SEB, SEC, TSST1) in synovial fluid of patients with reactive arthritis

Methods: In a cross sectional study in pediatric and orthopedic ward of Rasoul/ hospital in Tehran; Iran (2008-2010), 120 cases diagnosed as reactive arthritis. Synovial fluid aspirated in 62 patients with Mean age 11 years (0-16) and 53.4% male, 46.6% female by arthritis. Staphylococcal super Antigens (SEA, SEB, SEC, TSST1) searched in synovial fluid by ELISA; Chi square values (CI 95%, p<0.05) were calculated for all categorical variables.

Results: Positive culture; smear, LPA seen in 27 %( 18/66) cases positive culture in 11 cases including: S.Aureus 4; S.pneumonia 5, H.influenzae 1, Klebsiella 1. Positive smear in 10% cases LPA in 4 cases. S.Aureus septic arthritis was detected in 2 cases. Staph antigen detected in 7 cases with culture smear. TSST; SETC; SETB detected in 39% of cases. SETA was the least common Superantigens. No agreement observed between positive S.Aureus culture and Superantigens (TSST; SETC; SETB) except SETA.

Conclusion: S.Aureus has a prominent role in arthritis. In cases without isolation of organisms from synovial fluid S.Aureus toxins are detectable in synovial fluid. Failure in isolation of organisms is due to natural ungrowth of organism in synovial fluid, previous antibiotic usage or low technical methods for isolation. Uses of indirect methods for searching the antigens of usual organisms or S.Aureus Superantigens are helpful.