CELL BOUND COMPLEMENT ACTIVATION PRODUCTS DISTINGUISH SYSTEMIC LUPUS ERYTHEMATOSUS FROM OTHER DISEASES AMONG PATIENTS WITH HIGH ANTINUCLEAR ANTIBODY TITERS AND NORMAL COMPLEMENT


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ABSTRACT

PURPOSE
Patients with a suspicion of systemic lupus erythematosus (SLE) are often referred to the rheumatologist because of elevated anti-nuclear antibody (ANA) titers. We sought to evaluate the association of cell bound complement activation products (CB-CAPs), low complement (C3 or C4), and anti-double stranded (ds) DNA with SLE in the context of different ANA titers.

METHODS
The cohort (N=1155, all adults) consisted of 498 SLE with established disease (all fulfilling the 1997 ACR criteria, 91% females, mean age 41 years) pooled from prior studies of complement activation products. Abnormal CB-CAPs consisted of C4d bound to erythrocyte or B-lymphocyte levels above the 99th percentile of normal healthy. Low complement (C3 and/or C4), and anti-dsDNA was 50% sensitive and 89% specific while anti-dsDNA was 20% sensitive and 99% specific (J=0.39 vs 0.19; p<0.01). In the subset of subjects with high ANA and normal complement (117 SLE and 106 non SLE), abnormal CB-CAPs was 68% sensitive and 82% specific and yielded higher diagnostic value than anti-dsDNA alone (40% sensitive and 93% specific) (J=0.50 vs 0.34; p<0.01).

CONCLUSION
Abnormal CB-CAPs is more significantly associated with the diagnosis of SLE compared with low complement and anti-dsDNA and is a sensitive and specific measure for SLE in subjects with high ANA titers and normal complement levels.

METHODS

OBJECTIVE

- We decided to evaluate the association of elevated cell-bound complement activation products (CB-CAPs), low complement (C3 and/or C4), and positive anti-double stranded (ds) DNA antibodies with SLE in the context of different ANA titers: negative (<1:80); intermediate (1:80 to 1:320); high (≥1:640).

RESULTS

Abnormal CB-CAPs is more significantly associated with SLE (J=0.51) than low complement (J=0.32) and anti-dsDNA (J=0.31) irrespective of ANA titers (p<0.01).

CONCLUSION
Abnormal CB-CAPs by ANA Titers Among Subjects with Normal Complement Levels.