Publication of the Month

May 05/09: Prelavence of IFA-detected ANA in SLE lower than expected

Indirect immunofluorescence (IFA) on HEp-2 cells is still seen as the reference method for ANA analysis. A positive IFA ANA test is also said to be the serologic hallmark of SLE and it's one of the American College of Rheumatology (ACR) classification criteria for SLE. It is often stated that the diagnostic sensitivity of ANA IFA in SLE is > 95%. However, the frequency of ANA at abnormal titers as stipulated by the ACR criteria has not been investigated in detail. Furthermore a positive ANA by IFA is also common among healthy individuals, who probably never develop any other signs of systemic disease. The publication presented addresses the open questions and shows that HEp-2 IFA is not as sensitive in SLE as believed, and on the other hand shows a significant lack of specificity. The comparison with two commercially available anti-nucleosome assays shows, however, that also these tests are not more specific for SLE, do not add valuable information and are thus not suitable for routine diagnostic use.

Sjöwall C, Sturm M, Dahle C, Bengtsson AA, Jönsen A, Sturfeld G, Skogh T
Abnormal antinuclear antibody titers are less common than generally assumed in established cases of systemic lupus erythematosus
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Objective: To evaluate antinuclear antibody (ANA) tests in established 50 cases of systemic lupus erythematosus (SLE) and 65 patients with rheumatoid arthritis (RA) by indirect immunofluorescence microscopy (F-ANA) and enzyme-immunoassays detecting antinucleosomal antibodies (ANSA-EIA).

Results: An abnormal F-ANA titer (defined as greater than the 95th percentile among 300 healthy blood donors: ≥ 1:200 in women, ≥1:80 in men) occurred in 76% of the SLE sera compared to 23% in RA. At a dilution 1:50, 84% of the SLE sera were F-ANA- positive compared to 20% of healthy women. In the 2 ANSA-EIA kits 40% and 56%, respectively, of the SLE sera tested positive. RA patients and healthy subjects were positive in 20% and 2%, respectively.

Conclusion: F-ANA detected by HEp-2 cell based IFA at an abnormal titer is far less prevalent than generally assumed in patients with an established diagnosis of SLE. However, the specificity of this method for SLE is low, as F-ANA also occur at a titer of 1:200 in RA and healthy subjects with a prevalence of 23% and almost 5%, respectively. Anti-nucleosome antibodies (ANSA) occurred in 56% of the SLE sera, but also in a fair number of RA sera. Practically all ANSA-positive SLE sera were identified by chromosomal F-ANA staining. The diagnostic specificity of antigen-specific antinucleosomal EIAs is not high enough to justify use of this analysis for routine diagnostic purposes.