Understanding the ANA for Health Care Providers

Autoantibodies are frequently used in the diagnosis of rheumatic conditions and sometimes for monitoring of disease activity. Every test has to be evaluated in the setting in which it was ordered and the pretest odds of the diagnosis in question are an important factor in determining the importance of the results of the test.

Antinuclear antibodies (ANA's) are seen in rheumatologic diseases such as SLE, Sjogren's syndrome, MCTD, Systemic Sclerosis (scleroderma), and similar diseases. However, finding an ANA by itself does not signify disease, because many healthy people have positive antibodies and never develop SLE or other connective tissue diseases. For instance, approximately 1 in 10 people in the general population have a positive ANA while the prevalence of SLE is around 1 in 2000. Thus, only a minority of ANA positive patients (approximately 1 in 15-20) will have SLE. A high titer ANA increases the likelihood that the presence of antibody is related to a disease. Most Rheumatologists do not consider a titer of 1:80 or less positive.

There are different ways to test for ANA's. Most laboratories use the immunofluorescence (IFA) method whereby a patients serum is incubated with Hep 2 cells, overlaid with fluorescent labeled antibody, and the cells are viewed under a fluorescent microscope. **The IFA method is considered the gold standard for measuring ANA's**. NMC Portsmouth uses an ELISA ANA test in its lab (ANA screen in CHCS/AHLTA). The ELISA test is fully automated and is much less labor intensive than the IFA method. Unfortunately, the ELISA test is less specific than the IFA test and is prone to false-positive results. The rheumatologists at NMCP often repeat positive ANA screens with the IFA test (ANA by IFA in CHCS/AHLTA) to confirm positive results. **The American College of Rheumatology has recommended that the IFA test should be the initial test used to detect ANA.**

If the pretest probability is high that a patient has a systemic autoimmune disease, then the ANA test will be more likely to help establish a diagnosis. For instance, if a patient has symptoms concerning for systemic lupus erythematosus (SLE) such as photosensitivity, symmetric polyarticular small joint synovitis, malar rash, or pleurisy, then the ANA results are likely to be helpful. However, if the ANA test is ordered less discriminately (i.e. the patient just has arthralgias) then the majority of positive results will likely represent false positive results and may distract the physician from the correct diagnosis. Additionally, false positive ANA test results can cause a tremendous amount of anxiety in patients, who often think (or are told) that "I have lupus" as they are referred to a rheumatologist.

The ANA test should only be ordered when there is a high suspicion of an autoimmune disease based on the patient's presentation, review of systems, and physical exam. This will prevent against false positive test results and help minimize patient concern and anxiety.