

## **The Role of Antinuclear Antibodies in Sjogren's Syndrome Diagnosis**

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The presence of antibodies directed against the nucleus of the cell is a hallmark of autoimmune disease. Since the 1960s, the ANA (antinuclear antibodies) has become the most important screening test for autoimmune diseases. Many patients and physicians associate a positive ANA with the diagnosis of systemic lupus erythematosus (SLE); however, ANA is not specific and can be present in a wide variety of autoimmune disorders including Sjogren's syndrome (Table 1).

### **What does a positive ANA mean?**

Several characteristics of ANAs are helpful in deciding their disease association and specificity. These include the titer and pattern. The titer is the degree of positivity of the test and is expressed as a ratio of the dilution of the patient's serum (watery portion of the blood after coagulation) required to produce a positive test, i.e., 1:80; 1:320. The higher the denominator (the second number) the more strongly positive the ANA. Most laboratories set a positive cutoff at 1:40 or 1:80. This is somewhat arbitrary; however, it is important to note that values below these levels may not be clinically significant.

### **ANA Patterns**

When viewed under a fluorescent microscope, ANAs form visible patterns in the cell nucleus. Four major patterns are recognized: rim, homogeneous, nucleolar and speckled. The presence of a speckled pattern is commonly seen in Sjogren's syndrome and overlap connective tissue disease syndromes, whereas a rim or homogeneous pattern is more typical of lupus.

Although ANAs are associated with autoimmune disorders, their presence is never diagnostic of any particular rheumatic disease including Sjogren's syndrome. Rheumatic diseases are diagnosed on the basis of classical clinical finding; laboratory data is used to corroborate that diagnosis.

### **Test Specificity—SSA and SSB**

Specificity has been increased in some newer tests that break down a positive ANA into several of its components (Table 2). These tests can be used in the follow up evaluation of a patient with a positive ANA. Some of these tests may help a clinician learn more about a patient's condition than the basic ANA for a particular rheumatic disease. The so-called Sjogren's Antibodies, SSA and SSB, are present in 70% and 40% respectively of patients with Sjogren's syndrome. These are also referred to as anti-Ro and anti-La. However, these antibodies are not entirely specific for Sjogren's syndrome; 30% of patients with lupus (SLE) are SSA positive.

### **The Role of "Diagnostic Panels"**

All of the tests described above can be individually ordered by a physician and have been available in most cases for the past ten years. More recently, clinical diagnostic laboratories have offered "diagnostic panels" to physicians. These panels simply offer a group of the autoantibody tests at a potential cost savings over the price of individual tests

ordered separately. Panels may be more costly, however, if the physician orders an entire panel instead of choosing the one or two most relevant tests for that patient's clinical condition. Such panels include: ANA Rheuma Screen™, ANAlyzer™, Rheumatoid profile, and Autoimmune profile. Although these panels may have slight differences in their sensitivities, it is important to note that they do not represent significant diagnostic advances for Sjogren's syndrome patients.

The ability to analyze antinuclear antibodies has provided the physician with an important tool in the diagnosis and management of autoimmune disorders. It is important to remember that no single blood test is diagnostic for Sjogren's syndrome or any rheumatic disease in the absence of a complete clinical evaluation. Commercially available ANA panels add convenience, and in some instances may be cost effective, but do not represent significant diagnostic advances in the management of Sjogren's syndrome.