SLE TEST

INTRODUCTION & PRINCIPLE:

Testing of Antinucleoprotein Factors (ANFs) has showed a great value I diagnosis, prognosis and therapeutic monitoring of Systemic Lupus Erythematosus (SLE). Systemic Lupus Erythematosus (SLE) is one of the major autoimmune disease, involving a wide range of organs and tissues including in decreasing incidence, joints, skin, kidney, central nervous system, heart and lungs. It predominantly affects women (approximately 3 to 4 times more frequent than in men) and has a high incidence in monozygous twins (70-80%) and close relatives (5-10%), suggesting a genetic support for this disease. Characteristics of SLE are autoantibodies directed against one or more nuclear antigens (native DNA, nucleoproteins, denatured DNA and other extractable nuclear antigens).

These antinuclear antibodies (ANAs) belong indifferently to the lgG, lgM or lgA classes of immunoglobulins. Although ANAs are not completely specific of the disease, the detection of these antibodies is yet particularly useful as an indicator of SLE, in which ANAs have been demonstrated in the serum of approximately 95% of active SLE untreated patients. Apart from SLE, ANAs are also present but in substantially lower titer in patients with rheumatoid and juvenile arthritis, scleroderma, chronic discoid lupus, polyarteritis nodosa, dermatomyositis, chronic liver disease and drug-induced lupus.

Among ANAs, antibodies to deoxyribonucleoprotein (DNP) are the most commonly encountered in SLE, being found in over 90% of patients at some time during the course of the disease. Anti-DNP antibodies have been reported to be responsible for characteristic LE cell phenomenon and give rise to homogeneous patterns of nuclear straining in immunofluorescence ANA tests.

Traditionally ANAs are demonstrated by immunofluorescence, enzyme Immunoassay and indirect haemagglutination. However, because these procedures are very labor-and time consuming, a number of attempts have been made to develop rapid tests for routine determination of SLE associated antibodies.

SLE TEST uses polystyrene lates particles covalently coated with DNP extracted from foetal calf thymus for the qualitative and the semi-quantitative determination of SLE associated ANFs in human serum.

SPECIMEN COLLECTION AND HANDLING:

Serum is to be used with this test. DO NOT heat inactivate test sera or controls. Collect venous blood in to a clean tube. Separate seurm as soon as possible after collection. If specimen testing is delayed, specimens should be refrigerated. Heavy bacterial contamination may cause false positive agglutination.

REAGENTS AND MATERIALS PROVIDED:

1. SLE Latex Reagent
2. SLE Positive control
3. SLE Negative control
4. Glass Slide
5. Mixing sticks

1. Place ONE drop of sample to the appropriately identified circle.
2. Mix and SLE Latex reagent by swirling the bottle, place ONE drop into each circle being used on the glass slide.
3. Using separate mixing sticks mix the contents of each circle over the entire surface area of the circle.
4. Rock the slide by a to and fro motion for 2 minutes. Alternately, an automated rocker or rotator may be used to mix the card for the required time.
5. Observe the circle for any sign of agglutination.
SEMIQUANTITATIVE PROCEDURE:
1. Make serial two-fold dilutions by mixing the contents of tube # 1 with a pippet and transferring 0.5 ml to tube # 2. Repeat serial transfers for each tube, discarding 0.5 ml from the last tube, i.e., 1:2, 1:4, 1:8, 1:16, 1:32 and 1:64.
2. Test each dilution as outlined above for quantitative procedure. The last dilution to exhibit agglutination is the SLE Titer.

RESULTS:

QUALITATIVE: the reaction of the test serum should be compared to the SLE positive and negative control sera. Agglutination of the test sera indicates the presence of anti-nuclear antibodies (ANA) which are often associated with SLE. Conversely, absence of agglutination indicates an absence of anti-nuclear antibodies associated with SLE or a level of ANA below the detection limit of the test.

POSITIVE: should exhibit strong agglutination which will appear as white clumps in a white suspension against a black background.

NEGATIVE: should not exhibit any agglutination which will appear as a white, homogeneous suspension against a blank background.

RESULTS – Semiquantitative: The approximate titer will correspond to the highest serum dilution exhibiting clearly visible agglutination .

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