ANA – [Serum] Analysis

Objective

The objective of this test is to detect antinuclear antibodies (ANA) in serum. ANA testing is widely used for screening and diagnosing autoimmune disorders such as systemic lupus erythematosus (SLE), Sjögren's syndrome, scleroderma, and mixed connective tissue disease.

Materials and Methods

Materials:
- Serum sample from patient
- ANA testing kits (indirect immunofluorescence or ELISA)
- Fluorescent microscope or microplate reader
- Standard laboratory equipment (pipettes, centrifuge)

Methods:
1. Sample Collection: Collect venous blood and separate serum via centrifugation.
2. Testing Method: Perform ANA testing using indirect immunofluorescence (gold standard) or ELISA method.
3. Pattern Recognition: For immunofluorescence, observe staining patterns (e.g., homogeneous, speckled, nucleolar) which provide diagnostic clues.
4. Quantification: Determine ANA titre using serial dilutions.
5. Interpretation: Positive ANA suggests autoimmune disease; correlate with clinical findings and confirm with specific antibody tests (e.g., anti-dsDNA, anti-Smith).

Results

- Negative: No ANA detected (titre below reference)
- Positive: ANA detected; titre and pattern must be reported
- High titres: Strongly associated with autoimmune connective tissue diseases

Conclusion

Serum ANA testing is a fundamental screening tool for autoimmune diseases. Interpretation should include titre and fluorescence pattern, and results must be correlated with patient symptoms and further confirmatory tests for accurate diagnosis.