Autoantibodies: The mystery revealed

Connective Tissue Diseases

Wafa LETIFI & **Imene JAZIRI**

Faculty of Medicine of Tunis — *Faculty of Pharmacy of Monastir*

Firstly reported in the 80s in a patient (John P.) presenting with polymyositis and interstitial lung disease (ILD), and who was tested positive for this antibody (Ab)

Family: Belongs to anti-aminoacyl-tRNA synthetases auto-Abs

Target antigen: histidyl-tRNA synthetase

Main disease: Antisynthetase Syndrome (ASS)

Most common myositis-specific Ab, found in 20% of patients with myositis

Anti-Jo-1 antibodies

Anti-JO1 abs in antisynthetase syndrome:

- The only Myositis Specific Antibody Included in the **2017 EULAR/ACR classification criteria** for antisynthetase syndrome (ASS).
  - **Sensitivity:** 20-30%
  - **Specificity:** 99%
- Within the **ASS** it is associated with ILD, myositis, arthritis, Raynaud's phenomenon, and mechanic's hands; these features may occur in various combinations or as an isolated manifestation, especially ILD
- Associated with a better prognosis when compared with the other anti-synthetase auto-Abs due to less aggressive ILD

Screening techniques:

- **Indirect immunofluorescence (IIF) on HEp-2 cells:**

***The cytoplasmic fine speckled pattern is not specific for anti-Jo1**

*** Anti-Jo1 Abs may be undetected in IIF**

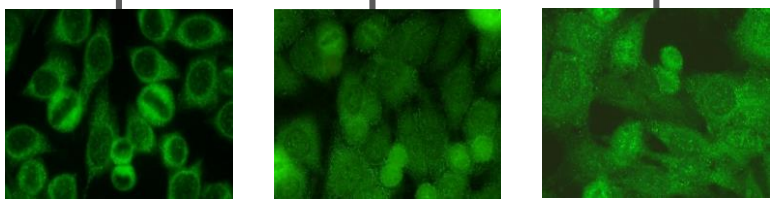
- **ELISA screen**

Confirmation techniques::

Methods	Immunoprecipitation	Immunodot	ELISA
Advantages	reference technique	testing multiple auto-Abs	quantitative
Limits	specialized laboratories	- multi-positivity - semi-quantitative	cost

Precautions: -Avoid hemolyzed and lipemic sera -Avoid repeated freeze/ thaw cycles of sera

IIF pattern on HEp-2 cells: Cytoplasmic fine speckled:
scattered small speckles in the cytoplasm mostly with homogeneous or dense fine speckled background



References