Autoantibodies: The mystery revealed

Connective Tissue Diseases

Mayssa TIMOUMI

& Sahar KAROUI

Faculty of medicine Sousse

Faculty of medicine of Sfax

- First described in 1969: SSA/Ro antigens associated with small cytoplasmic RNAs
- Family: Extractable nuclear antigen antibodies (ENA)

Target antigen:

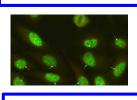
Ro60 :a 60 kDa protein component of small cytoplasmic ribonucleoprotein complexes (hY-RNA complexes)

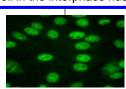
Anti-SS-A/Ro antibodies

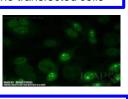
Screening technique : Indirect immunofluorescence on HEp-2 cells/ HEp-2000 cells (SS-A/Ro60 transfected Hep-2 cells)

IIF pattern on: HEp-2: : nuclear fine speckled

HEp-2000: bright speckled pattern with prominent staining of the nucleoli in the interphase nuclei of the transfected cells







Confirmation technique :

- **-ELISA** (Enzyme-linked immunosorbent assays) : safe, rapid, sensitive and specific
- -FEIAs (fluorometric enzyme-linked immunoassays)
- **-CLIA**s (chemiluminescence immunoassays) :sensitivity 89%/specificity 100%
- -LIA (Line immunoblots Assay): higher specificity than ELISA

Associated disease Sensitivity | Specificity Positive Negative LR* LR* 97.3 % 26 0.3 Sjogren's syndrome 69 % Systemic lupus 29.6 % 97.6 % 12 0.7 erythematosus **Systemic Sclerosis** 7.9-21% 98-100% 4/6-11 0.8-0.9 Rheumatoid arthritis 9.9-20% 98-100% 8.3-11 0.8 - 0.923-24% 12-14 8.0 Inflammatory idiopathic 98-100% myopathies **Neonatal lupus** 98% 68% N/A

*LR: likelihood ratio

Main disease: Sjogren's syndrome

Presence of Ro60 antigen, awarded 3 points in the ACR/EULAR 2016 classification (diagnosis>4 points)

Associated with more severe symptoms, resulting from the involvement of endocrine glands, lymphadenopathy, larger salivary glandular infiltrates, characteristic vasculitis and longer duration of the disease

Clinical features:

Hematologic changes, photosensibility, skin involvement, Raynaud's phenomenon and dryness

Transplacental passage of anti-SSA/Ro and/or anti-SSB exposes the foetus to congenital heart block (2%).

Recurrence rate is nine times higher in subsequent pregnancies



Pregnant women with connective tissue diseases should be screened for these abs.





Associated diseases

• La première description des anti-Ro remonte à (Clarck, 1969), anti-SSA et anti-SSB (Alspaugh, 1975).