

# Interpreting Autoantibodies in General Practice

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# Case One

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- 47 year old lady
  - Fatigue
  - Arthralgias
  - ? malar rash
  - Subjectively photosensitive
- Blood Tests:
- FBC, UE, LFTs normal
- ANA – weakly positive 1:40
- ESR 25 mm/hr, CRP 1 mg/L
- **What other tests are useful?**

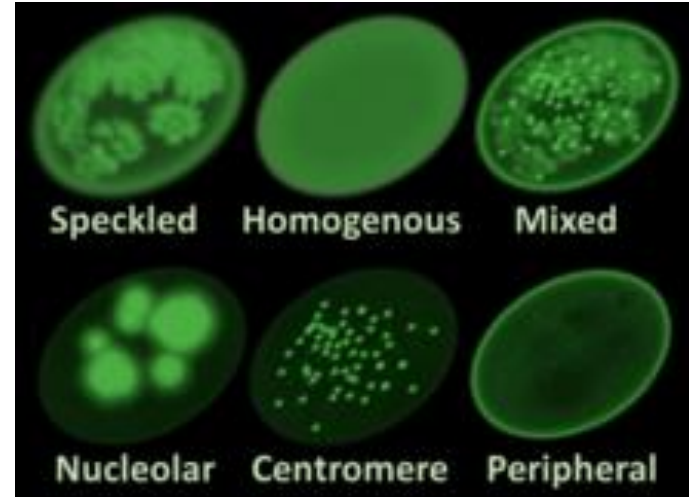
## Case Two



- 32 year old Asian lady
  - New fevers
  - Night sweats
  - Weight loss
  - Arthralgias
  - Sicca symptoms
  - Alopecia
  - Facial rash
- Blood Tests:
  - ANA 1:320
  - ESR 56
  - Lymphocytes  $0.4 \times 10^9/L$
- **What other tests are useful?**

# Antinuclear Antibody

- Highest dilution at which ANA is visible in serum
- 1:40: 20-30% healthy individuals
- 1:80: 10-15% positive
- 1:160: 5% positive
- 1:320: 3% positive



## Extractable Nuclear Antigens

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- Anti centromere Abs [0.0-6.9 U/ml]
- Scl-70 [0.00-7.00U/ml]
- Jo-1 [0.00-7.00 U/ML]
- Anti La [0.00-7.00 U/ml]
- Anti Ro [0.00-7.00u/ML]
- Sm [0.00-6.90 U/ml]
- RNP [0.00-4.90 U/ml]
- DNA Crithidia Assay >15 IU/ml is positive
- DNA ELISA assay [0.00-9.99IU/ml]

# Antinuclear Antibody



Age >70  
Up to 70% have a  
positive ANA 1:40

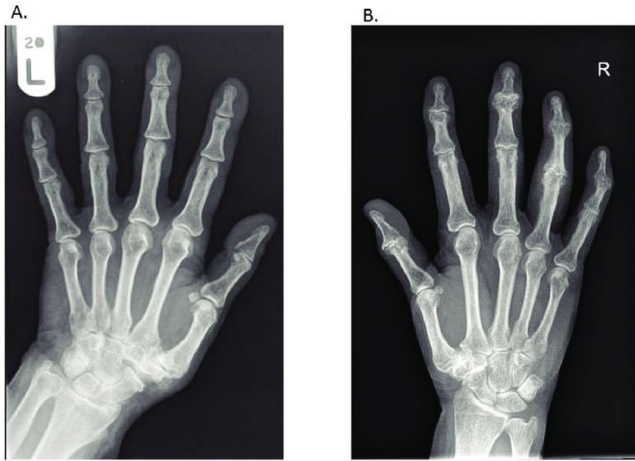


Twice as likely to be  
positive in women  
versus men

# Other Useful tests

- **Case One**

- ENA – likely to be normal
- Vitamin D level
- Xray Hands



- **Case Two**

- ENA
  - Ro >240 u/mL
  - La 115 u/mL
  - Sm 10 u/mL
- Urine dipstick
  - 2+ Blood
  - 2+ protein
- Also useful to test
  - Double stranded DNA
  - Complement



## When is Antinuclear Antibody a useful test?

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- If you have reasonable **pre test probability**
- Extremely useful in Juvenile Idiopathic Arthritis
  - **At risk of asymptomatic uveitis**
- **Negative ANA excludes Systemic Lupus Erythematosus (SLE)**
- **Positive ANA does not automatically mean SLE**



## Case Three



- 28 year old man
  - Non specific anterior knee pain
  - No early morning stiffness
  - No joint swelling
- Blood tests:
- ESR and CRP normal
- Rheumatoid factor 43 (0-20 IU/mL)
- CCP negative

## Case Four



- 72 year old man
  - Symmetrical pain and swelling of MCP and PIP joints of hands
  - Early morning stiffness lasting >60mins
  - Unable to play golf
  - Smoker
- Bloods tests:
- ESR 59 mm/hr
- CRP 72 mg/L
- Rheumatoid factor 190 (0-20 IU/mL)
- CCP >340 (<5 U/mL)

# Rheumatoid Factor

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- Sensitive but not specific for RA
- Can be positive in other clinical contexts
  - Infection
  - Lung pathologies
  - Malignancy
  - Primary biliary cholangitis
  - Ageing

# Citrullinated C Peptide

- Highly sensitive and specific for Rheumatoid Arthritis
- **Link with smoking**
- More rapid joint destruction
  - Radiographic progression
- APPIPRA Study
  - CCP+ arthralgias



### **Clinical context is key**

Positive ANA is common in healthy population

Weakly positive autoantibodies invariably are non significant

**If the ANA is negative it is not Lupus!**



# Thank you