Ask the Expert: Antiphospholipid Syndrome and Lupus Anticoagulant

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Hughes syndrome

Antiphospholipid syndrome = APS

Anticardiolipin syndrome
Antiphospholipid Syndrome (APS)

A Recent Diagnosis

- Early 1900’s SLE patients falsely accused of having syphilis
  - “False positivity” in the Wasserman reaction
- 1950s, lupus anticoagulant (LA)
- 1970s, LA associated with miscarriages
- 1983, anti-cardiolipin ELISA tests were developed
- 1986 APS symptoms: arterial-, venous thrombosis and pregnancy morbidity described in SLE
- Primary APS
- 1992, protein cofactor $\beta_2$GP1
- Recently $\beta_2$GP1 is believed to be the major antigen in APS
APS =
Blood clots (thrombosis) and/or Pregnancy morbidity + Antiphospholipid antibodies (aPL)
Clinical manifestations
- Blood clots – Thrombosis
  - Arterial, venous, small vessels
- Pregnancy morbidity
  - Miscarriages
    - 1 late (after week 10)
    - 3 early (before week 10)
  - Premature delivery
    - Before week 34
    - Preeclampsia
    - Placenta insufficiency

Laboratory tests:
- + aCL IgG eller IgM
  - Medium/high titer
    - >99%, eller >40 GPL enheter
- + aβ2GP1 IgG eller IgM
- + Lupus anticoagulant (LA)
  - At least 2 positive tests (persistent positivity)
  - 12 weeks apart

1 Clinical symptom + 1 Positive laboratory test = APS
Miyakis et al J Thrombosis and Haemostasis, 4: 295-306
Antiphospholipid antibodies (aPL)

Laboratory tests:

Specific antibodies

- ELISA tests
  - Anti cardiolipin (aCL)
  - Anti $\beta_2$Glycoprotein1 ($\beta_2$GP1)

Lupus anticoagulant (LA)

- Functional anticoagulant assay
  - "in vitro coagulation"
30-40 % of SLE patients have aPL less than half develop clinical symptoms of APS
We can not from the antibody tests predict who will get clinical complications.

Triple positivity = higher risk for complications

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2006 classification criteria for APS “Sidney criteria”

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Blood clots can have different locations

Venous
- Legs
- Lungs

Arterial
- Stroke
- Heart

Small vessels
- Kidneys
- Skin

Illustrations: Nadine Hillebrant
# SLE and antiphospholipid antibodies

712 Swedish SLE patients

<table>
<thead>
<tr>
<th>Antibodies targeting</th>
<th>Occurrence</th>
<th>Deep Venous Thrombosis/ Pulmonary Emboli</th>
<th>Stroke/Transitory Ischemic Attacks (TIA)</th>
<th>Myocardial Infarction/ Angina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiolipin IgG</td>
<td>17%</td>
<td>***</td>
<td>**</td>
<td>ns</td>
</tr>
<tr>
<td>$\beta_2$GP1 IgG</td>
<td>20%</td>
<td>***</td>
<td>**</td>
<td>ns</td>
</tr>
<tr>
<td>Lupus anticoagulant</td>
<td>19%</td>
<td>ns</td>
<td>***</td>
<td>ns</td>
</tr>
<tr>
<td>N= 289</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiolipin IgM</td>
<td>21%</td>
<td>ns</td>
<td>ns</td>
<td>*</td>
</tr>
<tr>
<td>$\beta_2$GP1 IgM</td>
<td>14%</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

* P <0.05  
** p <0.01  
*** p <0.001  
ns = non significant

Vikerfors et al Rheumatology 2013;52:501509
APS related pregnancy morbidities

- Miscarriage
- Intrauterine fetal death (IUFD)
- Pre eclampsia, eclampsia
- Intrauterine growth retardation (IUGR)
- Premature delivery
- Maternal thrombosis
Treatment: Blood clots / Thrombosis

Venous thrombosis:
- Warfarin
- INR 2,0 - 3,0
- Life long

Arterial thrombosis:
- As above, - or more intense treatment
  - Individual judgement
  - In some cases addition of low dose aspirin

Small vessel thrombosis:
- Anticoagulation
  - Individual judgement
1. Plan pregnancy!!

2. Low molecular weight heparin + low dose aspirin

3. Hydroxychloroquine, for SLE patients

4. Continue treatment at least 2 months after delivery
How to avoid complications?

- Stop smoking !!!
- No estrogens!!
  - Birth control pills
  - Hormone replacement therapy
- Anti thrombotic prophylaxis at risk situations
  - Immobilization
  - Long flights, car trips
  - Surgery
- Avoid overweight
- Treat cardiovascular risk factors
  - Hypertension, hyperlipidemia, diabetes etc.
- Adhere to treatment
Venous thrombosis

Small vessel thrombosis

Arterial thrombosis

Antiphospholipid antibodies (aPL)

Pregnancy morbidity
Ask a Question!

- As part of the Ask the Expert series remember to submit your question on APS and Lupus Anticoagulants by **May 15, 2013** to [www.lupus.org/resources/submit-a-question-for-lupus-expert-qas](http://www.lupus.org/resources/submit-a-question-for-lupus-expert-qas).
- Check back in **June** for answers to 15 selected questions.
- If you are viewing this at a later date we encourage you to call our Health Educators at 1-800-558-0121 for any further questions.