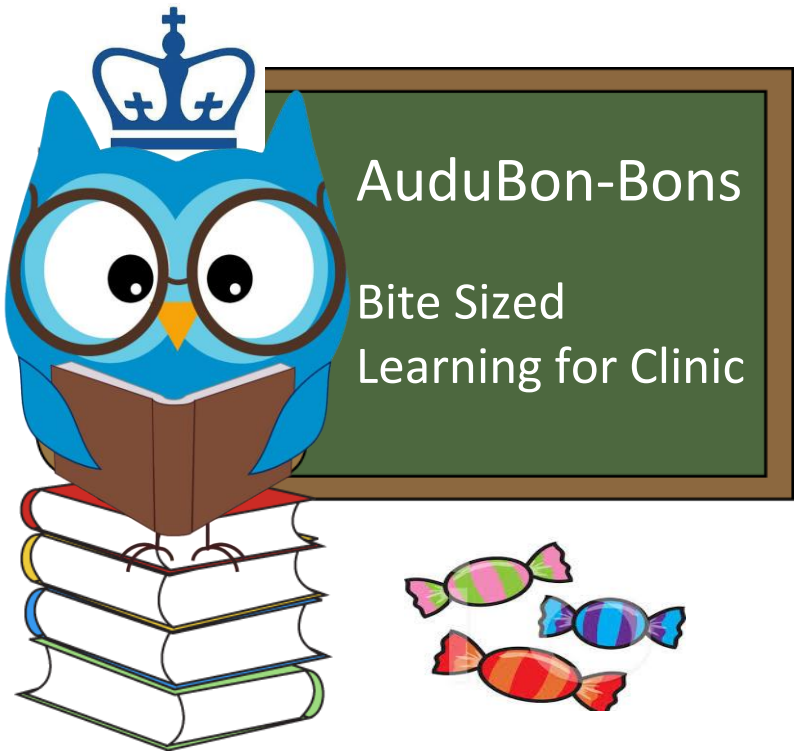
PRENATAL CARE: ANTIPHOSPHOLIPID SYNDROME



Week 68

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Reading Assignment:

- ACOG Practice Bulletin #197, July 2018 Inherited Thrombophilias in Pregnancy
- Review APLS Quiz on ACOG website https://www.acog.org/-/media/Districts/District-IV-Junior-Fellows-All-Members/MembersOnly/Week-1-Antiphospholipid-Syndrome.pdf?dmc=1&ts=20200203T0348328487

LEARNING OBJECTIVES

- To understand the pathogenesis of APLS
- To understand the impact of APLS on pregnancy
- To understand clinical criteria that should prompt screening for APLS
- To review the lab criteria for diagnosis of APLS
- To gain comfort counseling patients on treatment recommendations for APLS during prenatal care

CASE VIGNETTE

- Ms. A.P. is a 32 y.o. G3P0010 woman at 13 weeks by 1st trimester ultrasound who presents for an initial prenatal visit.

- She reports some mild nausea, otherwise has no complaints. She denies any pain or vaginal bleeding. This pregnancy was planned and she's very excited.

- She states she's very relieved she's made it to this point in pregnancy as she had 2 prior losses at 11 weeks.

FOCUSED HISTORY

What elements of the patient's history are most relevant?

- **POB:** **SAB 11w1d – normal FTS**
  SAB 11w3d – normal FTS
- **PGYN:** Regular menses; No STI/Cysts/Fibroids; No abnormal paps
  Contraceptive history: Condoms, DMPA
- **PMH:** **Denies any thrombosis**
- **PSH:** Denies
- **Meds:** PNV
- **All:** **NKDA**
- **FHx:** **No history of thrombosis**

PERTINENT PHYSICAL EXAM FINDINGS

What elements of the patient's physical exam are most relevant?

- **VS:** P 76 **BP 117/74** **Wgt:** 70kg **Hgt:** 160cm
- **Cor:** Regular rhythm, no M
- **Pulm:** CTAB b/l
- **Abd:** Soft, NT/ND, +BS x 4Q
- **Pelvic:** *Vulva:* Normal external female genitalia; No lesions
  Vagina: Healthy-appearing mucosa, No discharge
  Cervix: Parous os; L/C/P
  Uterus: NT, ~8wk size, anteverted
  Adnexae: No mass/tenderness b/l
- **Ext:** **No calf tenderness b/l**; +1 DTR b/l

APLS AND PREGNANCY

You tell your patient you'd like to consider testing her for APLS. She asks how this condition affects pregnancy. What will you discuss with her?

- **Fetal and recurrent pregnancy loss**
  - Most occurring at **>10 weeks EGA**
- **Preeclampsia**
  - APLS is associated with 11-17% of cases
  - Strongest in severe preterm cases **(<34 weeks EGA**)
- **IUGR**
  - Affects 15-30% of patients with APLS
  - Conflicting evidence regarding this link

PATHOGENESIS

What are the pathogenesis of poor pregnancy outcomes attributed to APLS?

Early Pregnancy

aPL (Antiphospholipid antibody) → X

- Placentation
- Trophoblast apoptosis

Late Pregnancy

Thrombotic & Inflammatory Changes

X → Spiral artery development

↓ Placental perfusion

- ↓ Delivery of nutrients
- ↓ Oxygenation
- High-velocity, high-pressure blood flow

EVALUATION – PATIENT SELECTION

What are the clinical criteria for a diagnosis of APLS?

- Any history of unexplained vascular thromboembolism

  OR

- Pregnancy morbidity

≥1 pregnancy loss at EGA ≥10 weeks	≥1 premature birth at EGA <34th week of gestation	≥3 unexplained consecutive SABs at EGA <10 weeks
• Normal fetal morphology by direct exam or U/S	• Associated with PEC+SF or Eclampsia • Associated with placental insufficiency	• Excluding maternal anatomic/hormonal abnormalities and maternal chromosomal causes

EVALUATION – LAB TESTS

What are the lab criteria for diagnosis of APLS?

- **Lupus anticoagulant**
  - ≥2 (+) at least 12 weeks apart
  - Before anticoagulation therapy

- **Anticardiolipin antibodiy** (IgG or IgM)
  - ≥2 (+) at least 12 weeks apart
  - Medium or high titer (>40GPL or MPL)

- **Anti-B2-glycoprotein I** (IgG or IgM)
  - ≥2 (+) at least 12 weeks apart
  - Titer >99%ile

Any one of these is sufficient for diagnosis, but a triple-positive status carries a worse prognosis!

PERINATAL MANAGEMENT

What are the recommendations for management of APLS patients in the perinatal period?

- **History of thrombotic event + aPL**
  - Antepartum: Prophylactic anticoagulation
    Possible addition of ***low-dose aspirin***
  - Postpartum: Prophylactic anticoagulation for 6 weeks
    Possible addition of ***low-dose aspirin***

ACOG
The American College of Obstetricians and Gynecologists

- **History of pregnancy morbidity + aPL** (*No thrombotic event*)
  - Antepartum: Prophylactic anticoagulation
    Possible addition of ***low-dose aspirin***
  - Postpartum: Prophylactic anticoagulation for 6 weeks
    Possible addition of ***low-dose aspirin***

ANTEPARTUM SURVEILLANCE

The patient's labs are consistent with a diagnosis of APLS.

What are the recommendations regarding **antenatal surveillance** for her pregnancy?

- Insufficient data to support or refute a specific practice

- **Serial U/S** and **3rd trimester antenatal testing** recommended by experts

LONG-TERM CONSIDERATIONS

What will be important considerations after this patient completes her pregnancy?

- **Risks**
  - Thrombosis
  - Stroke
  - SLE
- **Contraception**
  - **Avoid estrogen-containing contraceptives**
- **Referral to experts**
  - Internist
  - Hematologist
  - Rheumatologist

SOCIAL DETERMINANTS OF HEALTH

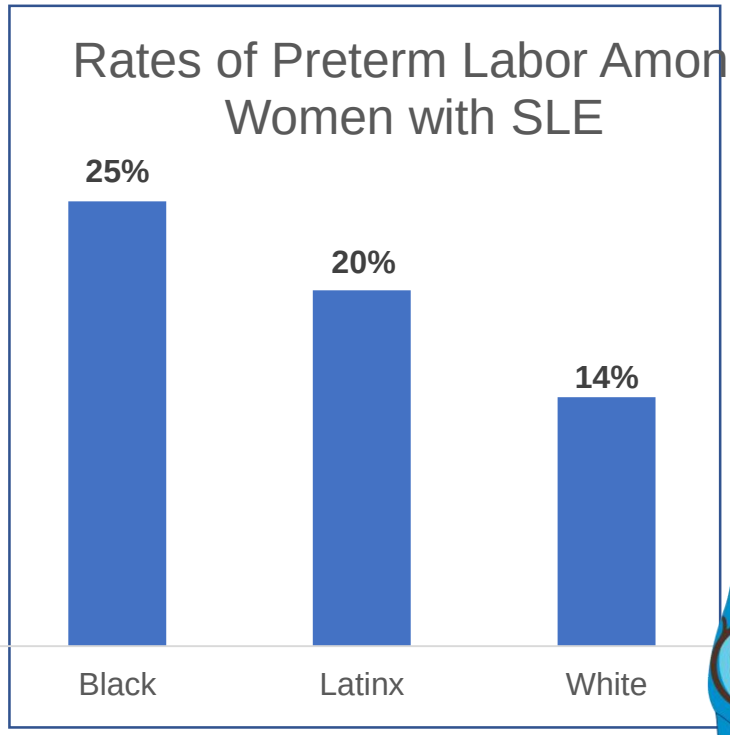
Black and Hispanic women with lupus have disproportionately higher rates of pregnancy complications compared to white women with lupus

More Black and Latinx women entered pregnancy with:

- Chronic hypertension
- Chronic renal failure
- Pneumonia
- Acute renal failure
- Low socioeconomic status
- Public (vs private) insurance

Black and Latinx women had higher than expected rates of preeclampsia, preterm labor, and fetal growth restriction**

Given the higher odds of complications, delivery hospitalizations for black and Hispanic women with lupus were more costly



**After adjustment for predictors of pregnancy outcomes and racial differences in non-lupus pregnancy

EPIC .PHRASE

BBonAPLSprenatal

Description: Antiphospholipid syndrome prenatal counseling and management

Given this patient's diagnosis of APLS, patient was counseled on the effects of APLS on pregnancy including recurrent pregnancy loss (most occurring at >10 weeks EGA), preeclampsia, and IUGR. The patient was also advised to avoid estrogen containing contraceptives after pregnancy. *** Given that this is a new diagnosis, patient was provided with referrals to an internist, hematologist and rheumatologist.

*** Given patient's history of a thrombotic event with concurrent APLS diagnosis, the patient was advised of the need for prophylactic anticoagulation +/- low dose aspirin in the antepartum period and prophylactic anticoagulation for 6 weeks post partum.

*** Given patient's history of pregnancy morbidity (pregnancy loss >10 weeks/recurrent loss <10 weeks) with concurrent APLS diagnosis (*without a thrombotic event*), the patient was advised of the need for prophylactic anticoagulation +/- low dose aspirin in the antepartum period through 6 weeks postpartum.

CODING AND BILLING

Antiphospholipid syndrome	**D68.61**
History of recurrent pregnancy loss	**O26.20**
History of preeclampsia	**Z87.59**

EVIDENCE

- Antiphospholipid syndrome. Practice Bulletin No. 132. American College of Obstetricians and Gynecologists. Obstet Gynecol 2012; 120:1514-21
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- Saccone, G., Berghella, V., Maruotti, G.M., Ghi, T., Rizzo, G., Simonazzi, G., Rizzo, N., Facchinetti, F., Dall'Asta, A., Visentin, S. and Sarno, L., 2017. Antiphospholipid antibody profile based obstetric outcomes of primary antiphospholipid syndrome: the PREGNANTS study. *American journal of obstetrics and gynecology*, *216*(5), pp.525-e1.
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- Bates SM, Greer IA, Middeldorp S, Veenstra DL, Prabulos AM, Vandvik PO, American College of Chest Physicians
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- Clowse, M.E.B. and Grotegut, C. (2016), Racial and Ethnic Disparities in the Pregnancies of Women With Systemic Lupus Erythematosus. Arthritis Care & Research, 68: 1567-1572. https://doi.org/10.1002/acr.22847