

## Antiphospholipid Syndrome, Factor V Leiden Mutation and Chronic Viral Hepatitis B: A Case with Extremely Numerous Recurrent Miscarriage

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### Abstract

The Antiphospholipid Syndrome (APS) is a prothrombotic disorder associated with autoantibodies, and used 'Sapporo criteria' or revised 'Sydney criteria' for classification. APS may be with primary or secondary to systemic lupus erythematosus, or infectious diseases. Viral infections, especially HCV may lead chronic antigenic stimulation, and induce autoimmunity and antiphospholipid antibodies due to molecular mimicking. Such as APL, factor V Leiden mutation also lead to thrombotic events. These two disorders are also reported rarely in literature. Our aim is to present 37-year-old female patient who had medical history of extremely numerous recurrent miscarriage with combination of antiphospholipid syndrome, factor V Leiden mutation and chronic viral hepatitis.

**Keywords:** Primary antiphospholipid syndrome; Factor V Leiden mutation; Hepatitis B; Recurrent miscarriage

### Presentation of Case

The patient consulted to our clinic due to medical history of miscarriages of 16 times with unexplained recurrent miscarriages on the first trimester. Her general condition was good with pale appearance, and the systemic evaluations were normal. No any genetic, metabolic, morphological, or anatomical problems were diagnosed at pregnancy. She had no history of hypertension, hyperlipidemia, smoking cigarette, and small vascular thrombotic signs such as skin purpura. Also, she had no any medical treatment during the pregnancies. Liver enzymes, renal, thyroid function tests, coagulation analysis and immunological markers were negative. Serologically infections by HIV, HCV cytomegaly virus, Epstein-Barr virus and Toxoplasma were also negative except for HBV. HBsAg was positive since 2 years. There was no liver cirrhosis. The laboratory tests for thrombophilia revealed homozygous factor V Leiden gene mutation, and the presence of  $\beta_2$  glycoprotein-I IgM for two times (22.6 U/ml and 34.1 U/ml, respectively). As clinical and laboratory findings, patient was diagnosed with APS, factor V Leiden mutation and chronic viral hepatitis B.

### Discussion

In APS, blood clot as a result of thrombosis in artery or vein may affect many organs, and cause clinical manifestations such as stroke, myocardial infarction, deep vein thrombosis or pregnancy morbidity (recurrent early miscarriage, fetal death, preeclampsia, placental insufficiency) [1]. Otherwise, at least one of three laboratory test positivity (anticardiolipin antibodies, anti- $\beta_2$  glycoprotein-I or lupus anticoagulant IgG/M) required with clinical findings [1,2]. In our patient, anti- $\beta_2$  glycoprotein-I antibodies were positive with recurrent fetal death. Higher prevalence for anticardiolipin antibodies have been described in HBV (24%), HCV (20%), and in HIV (49.8%) [3]. However, the prevalence of  $\beta_2$  glycoprotein-I antibodies is lower than

anticardiolipin antibodies in viral infections (HBV: 3.3%, HCV: 1.7%, HIV: 5.6%, respectively) [3]. The receptor for HBV called apolipoprotein H and viral phospholipids would provide the immunogenic stimulus for antiphospholipid synthesis [4]. The mechanisms of APS by infection are still unclear. Both APL and factor V Leiden mutation as thrombophilic disorders increase hypercoagulability and thrombotic events. The association of factor V Leiden mutation with APS has not been proven, although all of us have seen patients having both, factor V Leiden mutation and antiphospholipid antibodies. It's believed that this coexistence occur by chance. The combination of APL antibodies and Factor V Leiden is a very high risk condition for the pregnancy. These coexistences with the clinical presentations such as thalamo-mesencephalic infarction, Libman-Sacks endocarditis with stroke, myocardial infarction, and unexplained recurrent fetal and embryo loss were reported rarely in literature [5-8].

The clinicians should be careful for antiphospholipid syndrome and factor V Leiden mutation in patients with chronic viral hepatitis. And also, should keep in mind about the differential diagnosis of numerous recurrent miscarriages [9].

### References

1. Levine JS, Branch DW, Rauch J (2002) The antiphospholipid syndrome. *N Engl J Med* 346: 752-763.
2. Miyakis S, Lockshin MD, Atsumi T, Branch DW, Brey RL, et al. (2006) International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome (APS). *J Thromb Haemost* 4: 295-306.
3. Sène D, Piette JC, Cacoub P (2009) [Antiphospholipid antibodies, antiphospholipid syndrome and viral infections]. *Rev Med Interne* 30: 135-141.
4. Cheng HM, Khairullah NS (1997) Hepatitis viruses and antiphospholipid autoantibodies. *Hepatology* 25: 781-782.
5. Wandinger KP, Klingebiel R, Lünemann JD, Zimmer C, Ziemer S, et al. (2002) Thalamo-mesencephalic infarction as a single manifestation of combined factor V Leiden and antiphospholipid syndrome. *J Neurol* 249: 1477-1479.

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6. Morissette N, Gorman T (2010) Antiphospholipid syndrome and homozygous factor V Leiden mutation in a young patient with Libman-Sacks endocarditis and stroke. *Am J Med* 123: e3-4.
  7. Dropiński J, Wegrzyn W, Szczeklik W, Krzanowski M (2004) [Myocardial infarction as an initial symptom of antiphospholipid syndrome, factor V Leiden mutation, and hyperhomocysteinemia]. *Pol Arch Med Wewn* 111: 63-67.
  8. Boianovski B, Ruseva M, Ganey V, Karag'ozova Zh, Mladenova A, et al. (2001) Frequency of antiphospholipid antibodies and Leiden mutation of hemostasis Factor V in unexplained recurrent fetal and embryo loss. *Akush Ginekol Sofia* 40: 11-4.
  9. Kaiser R, Barton JL, Chang M, Catanese JJ, Li Y, et al. (2009) Factor V Leiden and thrombosis in patients with systemic lupus erythematosus: a meta-analysis. *Genes Immun* 10: 495-502