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Literature search results

Search completed for: Management of antiphospholipid syndrome in pregnancy 2010-2014

Search required by: Mid-August
Search completed on: 20th August 2014
Search completed by: Lesley Firth

Search details

Management of antiphospholipid syndrome in pregnancy 2010-2014

Resources searched

NICE Evidence; TRIP Database; Cochrane Library; CINAHL; EMBASE; MEDLINE; Google Scholar

Database search terms: "antiphospholipid syndrome", "hughes syndrome", "antiphospholipid antibody syndrome", (pregnant OR pregnancy), obstetric*, (miscarr* OR abortion*), reproduce*, (fetus OR foetus OR fetal OR foetal)

Evidence search string(s): ("antiphospholipid syndrome*" OR "antiphospholipid antibody syndrome") (pregnant OR pregnancy OR obstetric)

Google search string(s): ("antiphospholipid syndrome*" OR "antiphospholipid antibody syndrome") (pregnant OR pregnancy OR obstetric)

Guidelines and Policy

British Committee for Standards in Haematology
Guidelines on the investigation and management of antiphospholipid syndrome, 2012

Royal College of Obstetrics and Gynaecology
Air Travel and Pregnancy (Scientific Impact Paper 1), 2013 p. 5
Women may have additional risk factors for thrombosis such as a previous DVTs, symptomatic thrombophilia (such as antiphospholipid syndrome…)
Evidence-based reviews

Nothing found

Published research – Databases

**Recurrent thrombosis prevention with intravenous immunoglobulin and hydroxychloroquine during pregnancy in a patient with history of catastrophic antiphospholipid syndrome and pregnancy loss.**

**Author(s)**: Mar N, Kosowicz R, Hook K

**Citation**: Journal of Thrombosis & Thrombolysis, August 2014, vol./is. 38/2(196-200), 0929-5305;1573-742X (2014 Aug)

**Publication Date**: August 2014

**Abstract**: We report a case of a 36-year old patient with prior history of thrombosis in a setting of antiphospholipid antibody syndrome (APS) as well as pregnancy-associated catastrophic antiphospholipid syndrome (CAPS), resulting in multi-organ infarction and pregnancy loss. The episode of CAPS occurred while she was receiving antepartum low-dose aspirin and therapeutic-dose enoxaparin. This patient presented again at 6 weeks gestation and ultrasounds were consistent with fetal growth restriction, concerning for placental insufficiency and thrombosis. This time, hydroxychloroquine and monthly intravenous immunoglobulin (IVIG) infusions were added to her prophylaxis regimen, resulting in a successful delivery. Platelet count and antiphospholipid antibody titers were routinely monitored throughout pregnancy as markers of disease activity for APS. Current thromboprophylaxis guidelines do not address therapeutic options to prevent further pregnancy morbidity in women who develop recurrent episodes of thrombosis or CAPS despite receiving adequate anti-thrombotic treatment. Use of hydroxychloroquine and IVIG has been associated with good outcomes in this subset of patients.

**Source**: Medline

**Antiphospholipid antibody syndrome and reproduction.**

**Author(s)**: Kutteh, William H

**Citation**: Current Opinion in Obstetrics & Gynecology, 01 August 2014, vol./is. 26/4(260-265), 1040872X

**Publication Date**: 01 August 2014

**Abstract**: PURPOSE OF REVIEW: To review the recent diagnostic criteria, clinical implications, and therapeutic protocols for antiphospholipid antibody syndrome (APS). RECENT FINDINGS: Much has been learned in the recent years concerning the diagnosis of and clinical implications associated with the APS. A number of studies demonstrate some pathophysiologic mechanisms that suggest the impact of antiphospholipid antibodies (APAs) on successful growth and development of the placenta, and ultimately the embryo. These findings are discussed in context with establishing the Bradford Hill criteria for causation between APAs and recurrent pregnancy loss. The recent clinical recommendations from the American Society for Reproductive Medicine and the American College of Obstetrics and Gynecology are included. Practical guidelines for clinicians faced with treating women with antiphospholipid syndrome are presented. SUMMARY: The diagnosis of APS is defined and the clinical treatment protocol recommendations are discussed.

**Source**: CINAHL
Clinical improvement and successful pregnancy in a preeclamptic patient with antiphospholipid syndrome treated with pravastatin.

Author(s) Lefkou E, Mamopoulos A, Fragakis N, Dagklis T, Vosnakis C, Nounopoulos E, Rousson D, Girardi G

Citation: Hypertension, May 2014, vol./is. 63/5(e118-9), 0194-911X;1524-4563 (2014 May)

Publication Date: May 2014

Source: Medline

Available in fulltext from Hypertension at Free Access Content

The medical management of antiphospholipid syndrome in pregnancy: a meta-analysis.

Author(s) Wu CQ, Kustec VE, Brown RN, Martin MC, Filion KB

Citation: Obstetrics & Gynecology, May 2014, vol./is. 123 Suppl 1/(178S-9S), 0029-7844;1873-233X (2014 May)

Publication Date: May 2014

Abstract: INTRODUCTION: Controversies exist regarding the optimal medical management of antiphospholipid syndrome in pregnancy to prevent obstetric complications. We therefore conducted a systematic review and meta-analysis to evaluate the effect of different pharmacotherapies on pregnancy outcomes in women with antiphospholipid syndrome. METHODS: We searched the Cochrane Library, EMBASE, and MEDLINE from inception to June 2013. Randomized controlled trials (RCTs) examining the use of pharmacotherapies (aspirin, low-molecular weight heparin [LMWH], unfractionated heparin [UFH], intravenous immunoglobulin) in pregnant women with antiphospholipid syndrome were included. Data were extracted independently by two reviewers. Live birth data were pooled across RCTs using a random-effects model. RESULTS: Sixteen RCTs investigating pregnancy outcomes in women with antiphospholipid syndrome (n=803) were included in our meta-analysis. When data were pooled across RCTs, the combination of aspirin and UFH increased live birth rates compared with aspirin alone (relative risk [RR] 1.54, 95% confidence interval [CI] 1.25-1.89), whereas the combination of aspirin and LMWH resulted in a similar rate as aspirin alone (RR=1.07; 95% CI=0.88; 1.29). However, the combination of aspirin and LMWH did increase live births compared to IVIG (RR 1.64, 95% CI 1.21-2.22). The results of other pairwise comparisons were not statistically significant, although some estimates were accompanied by wide 95% CIs and did not rule out clinically important differences .(Figure is included in full-text article.) CONCLUSIONS: : Our meta-analysis suggests that the combination of aspirin and UFH results in a higher live birth rate than aspirin alone, whereas the combination of aspirin and LMWH was superior to intravenous immune globulin.

Source: Medline

Available in fulltext from Obstetrics & Gynecology at the ULHT Library and Knowledge Services' eJournal collection

Available in fulltext from Obstetrics and Gynecology at Free Access Content

Antiphospholipid antibody syndrome.

Author(s) Kutteh, William H, Hinote, Candace D

Citation: Obstetrics & Gynecology Clinics of North America, 01 March 2014, vol./is. 41/1(113-132), 08898545

Publication Date: 01 March 2014

Abstract: Antiphospholipid antibodies (aPLs) are acquired antibodies directed against negatively charged phospholipids. Obstetric antiphospholipid antibody syndrome (APS) is diagnosed in the presence of certain clinical features in conjunction with positive laboratory findings. Obstetric APS is one of the most
commonly identified causes of recurrent pregnancy loss. Thus, obstetric APS is distinguished from APS in other organ systems where the most common manifestation is thrombosis. Several pathophysiologic mechanisms of action of aPLs have been described. This article discusses the diagnostic and obstetric challenges of obstetric APS, proposed pathophysiologic mechanisms of APS during pregnancy, and the management of women during and after pregnancy.

Source: CINAHL

14th International Congress on Antiphospholipid Antibodies Task Force report on obstetric antiphospholipid syndrome.

Author(s): de Jesus GR, Agmon-Levin N, Andrade CA, Andreoli L, Chighizola CB, Porter TF, Salmon J, Silver RM, Tincani A, Branch DW

Citation: Autoimmunity Reviews, August 2014, vol./is. 13/8(795-813), 1568-9972;1873-0183 (2014 Aug)

Publication Date: August 2014

Abstract: Pregnancy morbidity is one of the clinical manifestations used for classification criteria of antiphospholipid syndrome (APS). During the 14th International Congress on Antiphospholipid Antibodies (aPL), a Task Force with internationally-known experts was created to carry out a critical appraisal of the literature available regarding the association of aPL with obstetric manifestations present in actual classification criteria (recurrent early miscarriage, fetal death, preeclampsia and placental insufficiency) and the quality of the evidence that treatment(s) provide benefit in terms of avoiding recurrent adverse obstetric outcomes. The association of infertility with aPL and the effectiveness of the treatment of patients with infertility and positive aPL was also investigated. This report presents current knowledge and limitations of published studies regarding pregnancy morbidity, infertility and aPL, identifying areas that need better investigative efforts and proposing how critical flaws could be avoided in future studies, as suggested by participants of the Task Force. Except for fetal death, there are limitations in the quality of the data supporting the association of aPL with obstetric complications included in the current APS classification criteria. Recommended treatments for all pregnancy morbidity associated to APS also lack well-designed studies to confirm its efficacy. APL does not seem to be associated with infertility and treatment does not improve the outcomes in infertile patients with aPL. In another section of the Task Force, Dr. Jane Salmon reviewed complement-mediated inflammation in reproductive failure in APS, considering new therapeutic targets to obstetric APS (Ob APS). Copyright 2014 Elsevier B.V. All rights reserved.

Source: Medline

Management of recurrent miscarriage.

Author(s): Sugiura-Ogasawara M, Ozaki Y, Suzumori N

Citation: Journal of Obstetrics & Gynaecology Research, May 2014, vol./is. 40/5(1174-9), 1341-8076;1447-0756 (2014 May)

Publication Date: May 2014

Abstract: Recurrent miscarriage is classically defined as three or more consecutive pregnancy losses. Many researchers have now revised this definition to two or more pregnancy losses because of the recent increase in the prevalence of childless couples. Established causes of recurrent miscarriage are antiphospholipid antibodies, uterine anomalies and abnormal chromosomes in either partner, particularly translocations. Antiphospholipid syndrome is the most important treatable cause of recurrent miscarriage. However, it is not yet established as to what kind of testing should be conducted in patients with recurrent pregnancy loss. Standardization of tests for antiphospholipid antibodies is needed. On the other hand, embryonic aneuploidy is the most frequent cause of recurrent miscarriage. Chromosome analysis of the embryo is important, because it has good predictive value for subsequent live birth. It is not necessary to give any
medications for unexplained cases of recurrent miscarriage, and provision of psychological support may be the most important to encourage the couples to continue to conceive until a live birth results. 2014 The Authors. Journal of Obstetrics and Gynaecology Research 2014 Japan Society of Obstetrics and Gynecology.

Source: Medline

Combination therapy with anticoagulants, corticosteroids and intravenous immunoglobulin for women with severe obstetric antiphospholipid syndrome.

Author(s) Watanabe N, Yamaguchi K, Motomura K, Hisano M, Sago H, Murashima A

Citation: Clinical & Experimental Rheumatology, March 2014, vol./is. 32/2(299-300), 0392-856X;0392-856X (2014 Mar-Apr)

Publication Date: March 2014

Source: Medline

Pregnancy morbidity in antiphospholipid syndrome: what is the impact of treatment?.

Author(s) de Jesus GR, Rodrigues G, de Jesus NR, Levy RA

Citation: Current Rheumatology Reports, February 2014, vol./is. 16/2(403), 1523-3774;1534-6307 (2014 Feb)

Publication Date: February 2014

Abstract: Women with persistently circulating antiphospholipid antibodies (aPL) have a higher incidence of recurrent abortions, fetal losses, pre-eclampsia, and placental insufficiency. Current treatment of patients with antiphospholipid syndrome (APS) during pregnancy with heparin and aspirin can act by preventing clot formation and improving live birth rates, but other obstetric morbidities remain high, especially in patients with a history of thrombotic events. In addition to the classical thrombotic placental events, other factors involving inflammation and complement activation seem to play a role in certain complications. In this article, we will review how medications interfere in the pathogenic mechanisms of APS, discuss the impact of current recommended treatment on pregnancy morbidity, and analyze new promising therapies.

Source: Medline

Available in fulltext from Current Rheumatology Reports at Free Access Content

Preventing pregnancy loss.

Author(s) Connors JM

Citation: Blood, January 2014, vol./is. 123/3(308-10), 0006-4971;1528-0020 (2014 Jan 16)

Publication Date: January 2014

Abstract: In this issue of Blood, 2 articles by The Nimes Obstetricians and Hematologists-Antiphospholipid Syndrome (NOH-APS) Study Group give us new information about the effects of low-molecular-weight heparin (LMWH) on pregnancy complications in women with prior pregnancy loss and either purely obstetric antiphospholipid syndrome (APS) or inherited thrombophilia. The results better define women at risk, suggest a role for LMWH, and confirm the need for further investigation.

Source: Medline

Available in fulltext from Blood at the ULHT Library and Knowledge Services’ eJournal collection

Available in fulltext from Blood at Free Access Content

Comparative incidence of pregnancy outcomes in treated obstetric antiphospholipid syndrome: the NOH-APS observational study.

Author(s) Bouvier S, Cochery-Nouvellon E, Lavigne-Lissalde G, Mercier E, Marchetti T, Balducchi JP, Mares P, Gris JC
The incidence of pregnancy outcomes for women with the purely obstetric form of antiphospholipid syndrome (APS) treated with prophylactic low-molecular-weight heparin (LMWH) plus low-dose aspirin (LDA) has not been documented. We observed women without a history of thrombosis who had experienced 3 consecutive spontaneous abortions before the 10th week of gestation or 1 fetal loss at or beyond the 10th week. We compared the frequencies of complications during new pregnancies between treated women with APS (n = 513; LMWH + LDA) and women negative for antiphospholipid antibodies as controls (n = 791; no treatment). Among APS women, prior fetal loss was a risk factor for fetal loss, preeclampsia (PE), premature birth, and the occurrence of any placenta-mediated complication. Being positive for anticardiolipin immunoglobulin M antibodies was a risk factor for any placenta-mediated complication. Among women with a history of recurrent abortion, APS women were at a higher risk than other women of PE, placenta-mediated complications, and neonatal mortality. Among women with prior fetal loss, LMWH + LDA-treated APS women had lower pregnancy loss rates but higher PE rates than other women. Improved therapies, in particular better prophylaxis of late pregnancy complications, are urgently needed for obstetric APS and should be evaluated according to the type of pregnancy loss.
Abstract: The relation between pregnancy outcome and single- or double-positivity of anticardiolipin (aCL) and beta2 glycoprotein I (abeta2GPI) in antiphospholipid syndrome (APS) has yet to be clearly documented. In this article, a total of 191 lupus anticoagulant-negative pregnant women with primary APS were retrospectively divided into three groups: aCL(+) /abeta2GPI(-) ; aCL(+) /abeta2GPI(+) ; aCL(-) /abeta2GPI(+) . All women had received medical therapy consisting of prednisone (10-15 mg/day), low-dose aspirin (50 mg/day), and low molecular weight heparin (40 mg/day). The miscarriage rate in the double-positive group was significantly higher than that in the aCL(+) /abeta2GPI(-) group (46.2% vs. 22.1%, p < 0.05); the miscarriage rate in the aCL(-) /abeta2GPI(+) group (36.4%) was not significantly different from the rates of the other two groups (p > 0.05). Thus, double-positivity may be a risk factor for pregnancy loss and abeta2GPI antibody may be a better prognostic marker than aCL antibody for pregnancy outcome. 2012 The Authors Acta Obstetricia et Gynecologica Scandinavica 2012 Nordic Federation of Societies of Obstetrics and Gynecology.

Source: Medline
Available in fulltext from Acta Obstetricia et Gynecologica Scandinavica at EBSCOhost

Diagnosis and management of obstetrical antiphospholipid syndrome: where do we stand?
Author(s) Marchetti T, Cohen M, Gris JC, de Moerloose P
Citation: Polskie Archiwum Medycyny Wewnetrznej, 2013, vol./is. 123/12(713-20), 0032-3772;1897-9483 (2013)
Publication Date: 2013
Abstract: Obstetrical antiphospholipid syndrome (APS) is defined by obstetrical complications and the presence of antiphospholipid antibodies (aPL). Although the incidence of APS is still poorly known, this thrombophilia is now recognized as one of the most common acquired causes of recurrent fetal loss. The diagnosis of APS during pregnancy can be challenging because of its various clinical features. Mothers with APS have an increased risk of thrombosis, thrombopenia, and specific pregnancy-related complications such as preeclampsia, eclampsia, and hemolysis elevated liver enzyme and low-platelet syndrome. aPL can also lead to recurrent, early miscarriages, stillbirths, and to intrauterine growth restriction. Clinicians should be aware of all these characteristics and a thorough differential diagnosis should be performed. Testing for aPL also requires skill due to the difficulty of standardization and interpretation of tests. To know when testing should be performed and when to repeat tests are still a matter of debate. While general management and first-line treatment of APS during pregnancy now have clear guidelines, second-line treatment is still required in 30% of the cases and new strategies are currently in development. In this review, we describe the clinical and biological aspects of obstetrical APS and its current management options. As APS pregnancies can be a real challenge for clinicians, we underline the necessity of multidisciplinary counselling and close follow-up.

Source: Medline
Available in fulltext from Polish Archives of Internal Medicine at EBSCOhost
Available in fulltext from Polish Archives of Internal Medicine at Directory of Open Access Journals

Obstetrical antiphospholipid syndrome: from the pathogenesis to the clinical and therapeutic implications.
Author(s) Marchetti T, Cohen M, de Moerloose P
Citation: Clinical & Developmental Immunology, 2013, vol./is. 2013/(159124), 1740-2522;1740-2530 (2013)
Publication Date: 2013
Abstract: Antiphospholipid syndrome (APS) is an acquired thrombophilia with
clinical manifestations associated with the presence of antiphospholipid antibodies (aPL) in patient plasma. Obstetrical APS is a complex entity that may affect both mother and fetus throughout the entire pregnancy with high morbidity. Clinical complications are as various as recurrent fetal losses, stillbirth, intrauterine growth restriction (IUGR), and preeclampsia. Pathogenesis of aPL targets trophoblastic cells directly, mainly via proapoptotic, proinflammatory mechanisms, and uncontrolled immunomodulatory responses. Actual first-line treatment is limited to low-dose aspirin (LDA) and low-molecular weight heparin (LMWH) and still failed in 30% of the cases. APS pregnancies should be a major field in obstetrical research, and new therapeutics are still in progress.

Source: Medline

Available in fulltext from Clinical and Developmental Immunology at Directory of Open Access Journals

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Available in fulltext from Clinical & Developmental Immunology at EBSCOhost

Available in fulltext from Clinical and Developmental Immunology at Free Access Content

Anticoagulation in management of antiphospholipid antibody syndrome in pregnancy.

Author(s) Lockshin, Michael D

Citation: Clinics in Laboratory Medicine, 01 June 2013, vol./is. 33/2(367-376), 02722712

Publication Date: 01 June 2013

Abstract: Knowledge of antiphospholipid antibodies and their impact on pregnancy continues to evolve. A variety of antiphospholipid antibodies have been identified, but not all of them seem to be pathologic for pregnancy outcome. Understanding of which patients are at high risk for adverse pregnancy outcome and the most effective treatment will require clinical trials based on risk stratification and long-term follow-up of infants.

Source: CINAHL

Catastrophic antiphospholipid syndrome: diagnosis and management in pregnancy.

Author(s) Gómez-Puerta, Jose A, Espinosa, Gerard, Cervera, Ricard

Citation: Clinics in Laboratory Medicine, 01 June 2013, vol./is. 33/2(391-400), 02722712

Publication Date: 01 June 2013

Abstract: Catastrophic antiphospholipid syndrome (CAPS) is a potentially lethal variant of antiphospholipid syndrome, characterized by multiorgan thrombosis in a short period of time, affecting mainly small vessels. In approximately 50% of CAPS cases, the catastrophic event is preceded by a trigger, mainly infections, or surgery, anticoagulation withdrawal, lupus flares, neoplasm, or pregnancy and puerperium. Treatment of CAPS is based on expert opinion and relies on a combination of several strategies, including anticoagulation, steroids, plasma exchange sessions, and/or intravenous immunoglobulins.

Source: CINAHL

Comparison of pregnancy outcomes of low molecular weight heparin with unfractionated heparin in the treatment of recurrent abortion secondary to antiphospholipid syndrome

Author(s) Janghorbani M., Abasi A.

Citation: Journal of Babol University of Medical Sciences, September 2013, vol./is. 15/5(17-23), 1561-4107 (September 2013)

Publication Date: September 2013

Abstract: BACKGROUND AND OBJECTIVE: Antiphospholipid syndrome (APS) is
a systemic autoimmune disorder that is associated with thrombosis in both arteries and veins as well as pregnancy-related complications. The aim of this study was to compare the relative efficacy and safety of low molecular weight heparin (LMWH) with unfractionated heparin (UFH) in the treatment of pregnant women with a history of recurrent abortion secondary to antiphospholipid syndrome (APS).

**METHODS:** In this prospective study, 83 women with a history of 3 or more consecutive spontaneous abortions before 10th weeks of pregnancy and positive antiphospholipid antibodies were received either UFH (5000 units, twice daily), or LMWH (enoxaparin 40 mg, once daily) as soon as pregnancy was diagnosed. Information regarding these women was obtained from comprehensive medical records system of Social Security Corporation, Qom, Iran. Then pregnancy outcome was compared in two groups. **FINDINGS:** Forty-two women in the LMWH group (95.5%) and 34 women in the UFH group (87.2%) delivered a viable infant (p>0.05). There were no significant differences in age and birth weight between the two groups. The mean+SD of apgar score in LMWH was 8.4+1.2 and in UFH was 7.7+1.2. Apgar score was higher in LMWH group (p<0.05) that was statistically significant. **CONCLUSION:** Both UFH and LMWH were effective in the treatment of pregnant women with a history of recurrent abortion secondary to APS. UFH was successfully used as an alternative to LMWH in the treatment of recurrent abortion secondary to APS.

**Source:** EMBASE

**Catastrophic antiphospholipid syndrome and pregnancy: an experience of 13 cases.**


**Citation:** Rheumatology, September 2013, vol./is. 52/9(1635-41), 1462-0324;1462-0332 (2013 Sep)

**Publication Date:** September 2013

**Abstract:** **OBJECTIVE:** Catastrophic antiphospholipid syndrome (CAPS) is a life-threatening disease caused by the onset of rapidly progressive and widespread small-vessel thromboses in the presence of aPLs. The aim of this study was to examine pregnancy-related CAPS. **METHODS:** Retrospective series of 13 patients with pregnancy-related CAPS with special focus on the follow-up. **RESULTS:** Eleven patients had known APS and had been treated with low-molecular-weight heparin (n = 10), aspirin (n = 8), oral anticoagulants (n = 1), HCQ (n = 3) and/or steroids (n = 1) during pregnancy. The most frequent manifestations of CAPS were cutaneous (n = 11), hepatic (n = 11), renal (n = 10), cardiac (n = 8) and neurological (n = 5). CAPS usually followed haemolysis, elevated liver enzymes and low platelet count (HELLP) syndrome (n = 12), which was associated with pre-eclampsia (n = 6) or with eclampsia (n = 3). No maternal death was observed. The perinatal mortality of 54% was related to prematurity with a mean gestational age of 26.6 weeks at onset of CAPS or HELLP syndrome. During a mean follow-up of 4.8 years (range 2-8 years), seven new pregnancies occurred in five patients and led to one miscarriage, four successful pregnancies and two HELLP syndrome with pre-eclampsia or eclampsia that occurred at 28 weeks gestation in both cases despite optimal treatment. No relapse of CAPS was observed. Two mothers suddenly died 2.5 and 6 years after CAPS. **CONCLUSION:** The occurrence of HELLP syndrome in a patient with APS should raise the suspicion of CAPS in the following days, and anticoagulation should be maintained post-partum or post-abortum. Subsequent pregnancies are at very high risk.

**Source:** Medline

Available in **fulltext** from Rheumatology at Free Access Content

Available in fulltext at Rheumatology; Notes: ESHRE Monograph is a supplement of Human Reproduction Update. Collection notes: Academic-License: Only available from an NHS networked computer
**Pregnancy and antiphospholipid syndrome.**

**Author(s)** Lockshin MD

**Citation:** American Journal of Reproductive Immunology, June 2013, vol./is. 69/6(585-7), 1046-7408;1600-0897 (2013 Jun)

**Publication Date:** June 2013

**Abstract:** APS causes adverse pregnancy outcome, especially in younger patients with SLE or prior thromboses. LAC is the best predictor of adverse outcome. Prior conclusions on the efficacy of heparin for prevention of poor outcome may be suspect. New therapies are under evaluation in animal models but how to introduce them into the clinic is unclear. 2012 John Wiley & Sons Ltd.

**Source:** Medline

Available in fulltext from American Journal of Reproductive Immunology at EBSCOhost

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**Role of the complement in pregnancy with antiphospholipid syndrome: Mechanisms of pathogenesis and clinical aspects**

**Author(s)** De Carolis S., Vitucci A., Garofalo S., Salvi S., Del Sordo G., Rella R., Botta A.

**Citation:** International Journal of Clinical Rheumatology, June 2013, vol./is. 8/3(399-405), 1758-4272;1758-4280 (June 2013)

**Publication Date:** June 2013

**Abstract:** Antiphospholipid syndrome is a disease that was discovered just 25 years ago. Although clinical manifestations have been clearly described, pathogenetic mechanisms are still barely understood. A recent hypothesis involves inflammation in the setting of antiphospholipid syndrome morbidity and experimental data support the activation of a complement cascade as a pivotal event in its physiopathology. In this review, the authors will analyze the recent literature, focusing on contemporary and emerging aspects of complement-mediated disease pathogenesis, and pinpoint the clinical significance of this novel finding. 2013 Future Medicine Ltd.

**Source:** EMBASE

Available in fulltext at International Journal of Clinical Rheumatology; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

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**Catastrophic antiphospholipid syndrome: diagnosis and management in pregnancy.**

**Author(s)** Gomez-Puerta JA, Espinosa G, Cervera R

**Citation:** Clinics in Laboratory Medicine, June 2013, vol./is. 33/2(391-400), 0272-2712;1557-9832 (2013 Jun)

**Publication Date:** June 2013

**Abstract:** Catastrophic antiphospholipid syndrome (CAPS) is a potentially lethal variant of antiphospholipid syndrome, characterized by multiorgan thrombosis in a short period of time, affecting mainly small vessels. In approximately 50% of CAPS cases, the catastrophic event is preceded by a trigger, mainly infections, or surgery, anticoagulation withdrawal, lupus flares, neoplasm, or pregnancy and puerperium. Treatment of CAPS is based on expert opinion and relies on a combination of several strategies, including anticoagulation, steroids, plasma exchange sessions, and/or intravenous immunoglobulins. Copyright 2013 Elsevier Inc. All rights reserved.

**Source:** Medline

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**Treating obstetric antiphospholipid syndrome**

**Author(s)** Galarza-Maldonado C., Kourilovitch M.R., Andrade-Sanchez P., Duran M.C., Asanza E.
**Citation:** International Journal of Clinical Rheumatology, June 2013, vol./is. 8/3(407-414), 1758-4272;1758-4280 (June 2013)

**Publication Date:** June 2013

**Abstract:** Systemic autoimmune thrombosis or antiphospholipid syndrome is a treatable cause of miscarriages and of recurrent spontaneous pre-embryonic and embryonic abortions. Three groups of management could be identified for antiphospholipid syndrome. Low doses of aspirin and low-molecular-weight heparins are recommended for treatment of this disorder. The use of glucocorticoids and intravenous immunoglobulins can be justified in special cases. Strict control and an interdisciplinary approach during treatment of these patients is mandatory. Inflammatory autoimmune mechanisms in the pathophysiology of obstetric antiphospholipid syndrome and anti-inflammatory and immunomodulatory mechanisms of drug action should be considered during individual treatment scheme selection. 2013 Future Medicine Ltd.

**Source:** EMBASE

Available in fulltext at International Journal of Clinical Rheumatology; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

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**Outcomes of pregnancies in women with suspected antiphospholipid syndrome**

**Author(s)** Nili F., McLeod L., O'Connell C., Sutton E., McMillan D.

**Citation:** Journal of Neonatal-Perinatal Medicine, 2013, vol./is. 6/3(225-230), 1934-5798;1878-4429 (2013)

**Publication Date:** 2013

**Abstract:** OBJECTIVES: To evaluate maternal and neonatal outcomes in women suspected to have primary antiphospholipid syndrome (PAPS). METHODS: A cohort from the Nova Scotia Atlee Perinatal Database (n = 211034) was studied. A total of 58 women with antiphospholipid antibodies without a clinical diagnosis of rheumatologic disease were evaluated. We compared them to maternal and neonatal outcomes of women without rheumatologic disease or PAPS who delivered in Nova Scotia 1988-2008. RESULTS: With PAPS, mean maternal age was older; mean gestational age and mean neonatal birth weight were less. With bivariate analysis, maternal colonization and urinary tract infection with group B streptococcus, thromboembolic disease, thrombocytopenia and Caesarean birth were more frequent in the suspected PAPS group compared to the control. Among neonates, hyperbilirubinemia, anemia, apnea, intraventricular hemorrhage grade I and II, retinopathy of prematurity, bronchopulmonary dysplasia, neonatal intensive care unit admission, and assisted ventilation occurred more frequently with PAPS. Babies in PAPS group had a longer hospital stay (8.7 vs 3.9 days). Logistic regression analysis identified that PAPS was only associated with increased risks of preeclampsia (Odds Ratio (OR) 2.2; 95% Confidence Interval (CI) 1.1-4.3; P = 0.016), urinary tract infection (OR 2.2; 95% CI 1.1-4.6; P = 0.02), and prematurity (gestational age <37) (OR 2.2; 95% CI, 1.07-4.3, P = 0.03). Positive predictive values for pregnancy induced hypertension, urinary tract infection and prematurity in women who had suspected APS were 24.1%, 17.2% and 45.6% respectively. CONCLUSION: With suspected PAPS, risks for preeclampsia, urinary tract infection and prematurity are increased. Outcomes for babies are related to prematurity. 2013 IOS Press.

**Source:** EMBASE

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**Effect of prednisone, aspirin, low molecular weight heparin and intravenous immunoglobulin on outcome of pregnancy in women with antiphospholipid syndrome**

**Author(s)** Xiao J., Xiong J., Zhu F., He L.

**Citation:** Experimental and Therapeutic Medicine, January 2013, vol./is. 5/1(287-291), 1792-0981;1792-1015 (January 2013)
**Publication Date:** January 2013  
**Abstract:** The aim of this study was to evaluate the effect of traditional treatment (prednisone and aspirin) and comprehensive treatment [prednisone, aspirin, low molecular weight heparin (LMWH) and IVIg] on the pregnancy outcome, obstetric complications and fetal outcome in women with antiphospholipid syndrome (APS). In the present trial, we observed and evaluated 129 women with APS. Eighty-seven patients received traditional treatment and 42 patients received comprehensive treatment. In the traditional treatment group and comprehensive treatment group, the live birth rate was 83.91 and 97.62% (P<0.05), respectively, and the obstetric morbidity was 22.99 and 7.14% (P<0.05), respectively. The neonatal weight in the comprehensive treatment group was increased compared with the traditional treatment group (P<0.05), however, no differences were found in gestational age at delivery or preterm labor. Comprehensive treatment improved the result of gestation and reduced obstetric complications, and is a more effective treatment for APS than the traditional method using prednisone and aspirin.

**Source:** EMBASE

**Organ specific complement proteins inhibition can reduce the risk of antiphospholipid antibodies mediated fetal loss.**

**Author(s)** Amarnath A, Archunan G  
**Citation:** Medical Hypotheses, January 2013, vol./is. 80/1(65-6), 0306-9877;1532-2777 (2013 Jan)

**Publication Date:** January 2013  
**Abstract:** Antiphospholipid syndrome is a pregnancy related, systemic autoimmune disorder in which antibodies directed against cell membrane phospholipids with multiple venous/arterial thromboses. Though the etiology of antiphospholipid syndrome has not been identified exactly, experimental evidences suggest the possible mechanisms involved in the pathogenicity of this syndrome. Antiphospholipid antibodies mediate deposition of complement proteins in placenta and over expression of tissue factor on the surface of neutrophils which are reported to be the prominent cause of prothrombotic phenotype. The activation complement components C3 and C5 by antiphospholipid antibodies would eventually activates blood coagulation pathway that leads to thrombosis. Inhibition of activated complement components C3a and C5a by anticomplement agents protects from antiphospholipid antibody mediated fetal loss. Since the interference of complement pathway may lead to deleterious effects, we hypothesis that local inhibition of complement proteins C3a and C5a at placenta would reduce the risk of antiphospholipid antibody mediated placental thrombosis and pregnancy complications. Copyright 2012 Elsevier Ltd. All rights reserved.

**Source:** Medline

**Recurrent miscarriage, antiphospholipid antibodies and the risk of thromboembolic disease.**

**Author(s)** Martinez-Zamora MA, Cervera R, Balasch J  
**Citation:** Clinical Reviews in Allergy & Immunology, December 2012, vol./is. 43/3(265-74), 1080-0549;1559-0267 (2012 Dec)

**Publication Date:** December 2012  
**Abstract:** Miscarriage affects 15 % of women, and while most are sporadic, there is a subset comprising 2-5 % of couples that suffers recurrent miscarriage (RM). Much work has been carried out to try to identify the RM underlying mechanisms. A subgroup of women with RM has been demonstrated to be in a prothrombotic state before pregnancy. The long-term health implications of this hypercoagulability may imply an increased risk of thrombotic events, including ischemic heart disease. Moreover, the presence of antiphospholipid antibodies (aPL), rather than thrombophilic genetic defects (i.e., factor V Leiden or prothrombin G20210A mutation) in patients with RM, is a determinant of thrombotic events later in life, especially among those patients having also classic cardiovascular risk factors.
These facts may have therapeutic implications. The efficacy of long-term thromboprophylaxis and its associated risk of bleeding is a complex problem in aPL-positive patients who have not developed previous thrombosis or in patients with antiphospholipid syndrome with isolated obstetric morbidity (i.e., RM). While most authors advocate the use of antithrombotic therapy only in patients with aPL and thromboembolic events, there is no consensus as to whether patients who have not experienced yet any thrombotic event might also be given prophylaxis. Low-dose aspirin may be effective in the prevention of thrombosis for asymptomatic, persistently aPL-positive individuals who have additional thrombosis risk factors, i.e., hypertension and lupus anticoagulant have been found to be independent risk factors for thrombosis in aPL carriers, and therefore, the use of thromboprophylaxis in these high-risk subjects could be recommend.

**Source:** Medline
Available in fulltext from *Clinical Reviews in Allergy & Immunology* at EBSCOhost
Available in fulltext at *Clinical Reviews in Allergy and Immunology*; Collection notes: On first login to a ProQuest journal you will need to select ‘Athens (OpenAthens Federation)’ from Select Region, and then ‘NHS England’ from Choose your Library.

**Pregnancy outcome in patients with antiphospholipid syndrome after cerebral ischaemic events: an observational study.**

**Author(s)** Fischer-Betz R, Specker C, Brinks R, Schneider M
**Citation:** Lupus, October 2012, vol./is. 21/11(1183-9), 0961-2033;1477-0962 (2012 Oct)
**Publication Date:** October 2012
**Abstract:** Among the most prominent features associated with antiphospholipid syndrome (APS) are cerebral ischaemic events (CVE). Pregnancy with APS increases the risk of thrombosis, including CVE. This study was undertaken to assess the risk of obstetric complications and recurrence of CVE during pregnancy in women with APS and previous CVE. We prospectively observed 23 pregnancies in 20 women (median age 31 years) with primary (n=8) or secondary APS (n=12). Eight patients had transient ischaemic attacks (TIA) and 12 had stroke before pregnancy. All patients received aspirin 100mg daily in combination with low molecular weight heparin (LMWH) during their pregnancies. The live birth rate was 91.3% (n=21). Obstetrical complications consisted mainly of preeclampsia (n=8, 34.8%) and preterm delivery (n=9, 42.9%). The risk for preeclampsia increased in patients who were positive for multiple antiphospholipid antibodies (aPL) (odds ratio (OR) 3.06 (95% confidence interval (CI) 1.01-9.32)) per positive aPL test (i.e anticardiolipin antibody, anti-s2-glycoprotein I antibody, lupus anticoagulant) (p 0.049). Three patients experienced recurrent CVE in the context of pregnancy (one during pregnancy, two in the postpartum period). We found an increased, but not significant, risk of a new episode of cerebral ischaemia in patients with pregnancies complicated by preeclampsia (two out of the eight preeclampsia (p 0.15). Despite treatment, there is a significant risk for pregnancy complications in APS patients with previous CVE. Especially in the context of preeclampsia, anticoagulation should be given rigorously to prevent recurrence of CVE.

**Source:** Medline
Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select ‘Athens (OpenAthens Federation)’ from Select Region, and then ‘NHS England’ from Choose your Library.
Available in fulltext from Lupus at EBSCOhost

**Complementemia and obstetric outcome in pregnancy with antiphospholipid syndrome.**

**Author(s)** De Carolis S, Botta A, Santucci S, Salvi S, Moresi S, Di Pasquo E, Del Sordo G, Martino C
**Citation:** Lupus, June 2012, vol./is. 21/7(776-8), 0961-2033;1477-0962 (2012 Jun)
**Publication Date:** June 2012

**Abstract:** OBJECTIVE: To investigate the predictive value of serum C3 and C4 complement component levels in relation to pregnancy outcome in patients with antiphospholipid syndrome (APS). MATERIALS AND METHODS: A prospective study of 47 pregnancies associated with APS was performed. Pregnancy outcome was analyzed in terms of: fetal loss, preterm delivery (<34 gestational weeks), fetal intrauterine growth restriction (IUGR), birth weight <2500 g and preeclampsia. Week at delivery, neonatal birth weight and neonatal birth weight percentile were also investigated. Hypocomplementemia, positivity for anti-dsDNA and triple positivity for antiphospholipid antibodies (aPL) were related to pregnancy outcome.

RESULTS: Forty-three pregnancies ended in live births with a fetal loss rate of 8.5%. Fetal death, preterm delivery and birth weight <2500 g were associated with hypocomplementemia (p = 0.019, p = 0.0002, p < 0.0001 respectively). Lower neonatal birth weight, lower neonatal birth weight percentile and lower week at delivery were associated with hypocomplementemia (p < 0.0001, p = 0.0003, p < 0.0001 respectively) and with triple aPL positivity (p = 0.008, p = 0.014, p = 0.03 respectively). A poor pregnancy outcome was confirmed among primary APS (PAPS) pregnancies with hypocomplementemia. Multivariate analysis confirmed that hypocomplementemia was an independent predictor of lower neonatal birth weight (p = 0.0001) and lower week at delivery (p = 0.002). CONCLUSION: Hypocomplementemia could be considered a novel prognostic factor for pregnancy outcome in APS patients.

**Source:** Medline

Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

Available in fulltext from Lupus at EBSCOhost

The relationship between TORCH complex false positivity and obstetric outcome in patients with antiphospholipid syndrome.

**Author(s)** De Carolis S, Santucci S, Botta A, Salvi S, Degenaro VA, Garufi C, Garofalo S, Ferrazzani S, Scambia G

**Citation:** Lupus, June 2012, vol./is. 21/7(773-5), 0961-2033;1477-0962 (2012 Jun)

**Publication Date:** June 2012

**Abstract:** OBJECTIVE: The presence of TORCH IgM positivity is not a specific indicator of primary infection; the assessment of IgG avidity index has been shown to be useful in identifying or excluding primary infection in pregnant women with no pre-gestational TORCH serology. TORCH is an acronym for Toxoplasmosis, Others (HBV, syphilis, Varicella-Zoster virus, Epstein Barr virus, Coxsackie virus and Parvovirus), Rubella, Cytomegalovirus (CMV) and Herpes Simplex. PATIENTS AND METHODS: Data from 54 pregnancies in women with antiphospholipid syndrome (APS) were assessed in comparison with data from 222 healthy pregnant women as controls. Each woman in both groups was systematically screened for TORCH IgG and IgM during pre-conceptional evaluation and/or at the beginning of pregnancy. The assessment of IgG avidity was also evaluated in order to identify primary infection or false positivity. RESULTS: A significant increase of CMV IgM false positivity in APS in comparison with controls was detected. A worse pregnancy outcome was observed among APS patients having CMV IgM false positivity in comparison with APS patients without false positivity; in particular a statistically significant lower neonatal birth weight and a lower neonatal birth weight percentile were observed. CONCLUSION: Our data suggest that the presence of CMV IgM false positivity could represent a novel prognostic factor for poor pregnancy outcome in APS patients.

**Source:** Medline

Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.
Risk-based secondary prevention of obstetric antiphospholipid syndrome.

Author(s) Ruffatti A, Calligaro A, Del Ross T, Favaro M, Tonello M, Banzato A, Punzi L, Pengo V

Citation: Lupus, June 2012, vol./is. 21/7(741-3), 0961-2033;1477-0962 (2012 Jun)

Publication Date: June 2012

Abstract: Treatment of pregnant women with antiphospholipid syndrome (APS) should be set apart from that from thrombotic APS patients. Patients with a history of pregnancy morbidity but no vascular thrombosis are usually treated with a prophylactic dose of heparin plus low-dose aspirin; whereas, those with previous vascular thrombosis alone or associated with previous pregnancy morbidity, are commonly treated with a therapeutic dose of heparin generally combined with low-dose aspirin. However, in about 20% of pregnant APS women these regimens fail. In this context, we conducted a case-control study on a large multicentre cohort of conventionally treated pregnancies to verify whether specific laboratory profiles and/or clinical characteristics are predictive of unsuccessful pregnancy outcome during conventional treatments. Multivariate analysis showed that pregnancy failure during conventional therapies was independently associated with a history of both thrombosis and pregnancy morbidity, the presence of systemic lupus erythematosus (SLE) or other systemic autoimmune diseases and triple antiphospholipid antibody positivity. With the aim to discover the most effective and safe treatments in high-risk pregnant APS women a large-scale multicentre study focusing on the effect of treatments on pregnancy outcome in women with APS and further risk factors for pregnancy failure has been designed.

Source: Medline

Available in fulltext from Lupus at EBSCOhost

Comparative incidence of a first thrombotic event in purely obstetric antiphospholipid syndrome with pregnancy loss: the NOH-APS observational study.

Author(s) Gris JC, Bouvier S, Molinari N, Galanaud JP, Cochery-Nouvellon E, Mercier E, Fabbro-Peray P, Balducchi JP, Mares P, Quere I, Dauzat M

Citation: Blood, March 2012, vol./is. 119/11(2624-32), 0006-4971;1528-0020 (2012 Mar 15)

Publication Date: March 2012

Abstract: The incidence of thrombosis in the purely obstetric form of antiphospholipid syndrome is uncertain. We performed a 10-year observational study of 1592 nonthrombotic women who had experienced 3 consecutive spontaneous abortions before the 10th week of gestation or 1 fetal death at or beyond the 10th week of gestation. We compared the frequencies of thrombotic events among women positive for antiphospholipid Abs (n = 517), women carrying the F5 6025 or F2 rs1799963 polymorphism (n = 279), and women with negative thrombophilia screening results (n = 796). The annual rates of deep vein thrombosis (1.46%; range, 1.15%-1.82%), pulmonary embolism (0.43%; range, 0.26%-0.66%), superficial vein thrombosis (0.44%; range, 0.28%-0.68%), and cerebrovascular events (0.32%; range, 0.18%-0.53%) were significantly higher in aPLAbs women than in the other groups despite low-dose aspirin primary prophylaxis. Women carrying 1 of the 2 polymorphisms did not experience more thrombotic events than women who screened negative for thrombophilia. Lupus anticoagulant was a risk factor for unprovoked proximal and distal deep and superficial vein thrombosis and women in the upper quartile of lupus anticoagulant activity had the highest risk. Despite data suggesting that aPLAbs may induce pregnancy loss through nonthrombotic mechanisms, women with purely obstetric
Antiphospholipid syndrome are at risk for thrombotic complications. 

**Source:** Medline

Available in fulltext from *Blood* at the ULHT Library and Knowledge Services’ eJournal collection

Available in fulltext from *Blood* at Highwire Press

Available in fulltext from *Blood* at Free Access Content

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### Obstetric antiphospholipid syndrome

**Author(s):** Galarza-Maldonado C, Kourilovitch MR, Perez-Fernandez OM, Gaybor M, Cordero C, Cabrera S, Soroka NF

**Citation:** Autoimmunity Reviews, February 2012, vol./is. 11/4(288-95), 1568-9972;1873-0183 (2012 Feb)

**Publication Date:** February 2012

**Abstract:** Antiphospholipid syndrome (APS) in pregnancy has a serious impact on maternal and fetal morbidity. It causes recurrent pregnancy miscarriage and it is associated with other adverse obstetric findings like preterm delivery, intrauterine growth restriction, preeclampsia, HELLP syndrome and others. The 2006 revised criteria, which is still valid, is used for APS classification. Epidemiology of obstetric APS varies from one population group to another largely due to different inclusion criteria and lack of standardization of antibody detection methods. Treatment is still controversial. This topic should include a multidisciplinary team and should be individualized. Success here is based on strict control and monitoring throughout pregnancy and even in the preconception and postpartum periods. Further research in this field and unification of criteria are required to yield better therapeutic strategies in the future. Copyright A 2011 Elsevier B.V. All rights reserved.

**Source:** Medline

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### Catastrophic antiphospholipid syndrome in the obstetric period

**Author(s):** Thielen N, Bolte AC, Zweegman S, Chamuleau ME

**Citation:** European Journal of Obstetrics, Gynecology, & Reproductive Biology, February 2012, vol./is. 160/2(237-8), 0301-2115;1872-7654 (2012 Feb)

**Publication Date:** February 2012

**Source:** Medline

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### Antiphospholipid syndrome in obstetrics

**Author(s):** Danza A, Ruiz-Irastorza G, Khamashta M

**Citation:** Best Practice & Research in Clinical Obstetrics & Gynaecology, February 2012, vol./is. 26/1(65-76), 1521-6934;1532-1932 (2012 Feb)

**Publication Date:** February 2012

**Abstract:** Antiphospholipid syndrome is characterised by a variety of clinical and immunological manifestations. The clinical hallmarks of this syndrome are thrombosis and poor obstetric outcomes, including miscarriages, fetal loss and severe pre-eclampsia. The main antiphospholipid antibodies include lupus anticoagulant, anticardiolipin and anti-beta2-glycoprotein I. The combination of aspirin and heparin is considered the standard of care for women with antiphospholipid syndrome and embryo-fetal losses; however, aspirin in monotherapy may have a place in women with recurrent early miscarriage. A good benefit-risk ratio of low-molecular-weight heparin in pregnancy thrombosis treatment has been reported. Warfarin must be avoided if possible throughout the first trimester of pregnancy. Adequate pregnancy management of women with antiphospholipid syndrome should include co-ordinated medical-obstetrical care, a close follow-up protocol and a good neonatal unit. Close blood pressure control and early detection of proteinuria, together with Doppler studies of the uteroplacental circulation should be included in the management protocol. Copyright 2011 Elsevier Ltd. All rights reserved.

**Source:** Medline
Management of obstetric antiphospholipid syndrome.

Author(s) de Jesus GR, dos Santos FC, Oliveira CS, Mendes-Silva W, de Jesus NR, Levy RA

Citation: Current Rheumatology Reports, February 2012, vol./is. 14/1(79-86), 1523-3774;1534-6307 (2012 Feb)

Publication Date: February 2012

Abstract: Recurrent early miscarriages (excluding chromosomal anomalies), late fetal loss, and maternal thrombosis are characteristic of obstetric antiphospholipid syndrome (APS). Obstetric complications such as preeclampsia, fetal growth restriction, premature delivery, and fetal death also occur in higher frequency in APS patients than in the general population. A high-risk obstetric center is needed for proper evaluation of and intervention with pregnant women with APS. Association with lupus carries additional risk of thrombosis when antiphospholipid antibodies (aPLs) are present. Gestational results with live births are improved to about 80% when antithrombotic therapy is used, but failure in 20% to 30% of the cases despite correct treatment with low-dose aspirin with or without heparin reveals new pathways for pregnancy loss in APS and unmet needs. At the moment, there is no recommendation to investigate patients with infertility for the presence of aPLs.

Source: Medline

Available in fulltext from Current Rheumatology Reports at EBSCOhost

Available in fulltext from Current Rheumatology Reports at Free Access Content

Recurrent miscarriage and thrombophilia: an update.

Author(s) McNamee, Kelly, Dawood, Feroza, Farquharson, Roy

Citation: Current Opinion in Obstetrics & Gynecology, 01 August 2012, vol./is. 24/4(229-234), 1040872X

Publication Date: 01 August 2012

Abstract: PURPOSE OF REVIEW: Acquired and inherited thrombophilia is an important research avenue in the recurrent miscarriage field. The optimum treatment for patients with recurrent miscarriage and a confirmed thrombophilia remains a contentious issue. We aim to appraise and explore the latest research in the field of thrombophilia and recurrent miscarriage in this review. RECENT FINDINGS: Antiphospholipid syndrome (APS) is the only proven thrombophilia that is associated with adverse pregnancy outcomes. Research involving inherited thrombophilia and recurrent miscarriage is limited to small observational studies with small and heterogeneous populations. Aspirin and heparin therapy are frequently prescribed for APS, yet there is no robust evidence for the most efficacious regime. The combination of inherited hypercoagulability and environmental factors in association with recurrent miscarriage has recently been explored as an aid to identify high-risk individuals. SUMMARY: The cause of recurrent miscarriage is multifactorial and appropriate treatment continues to be a challenge. Laboratory tests need to be standardized and well designed multicentre research trials are essential to expand on the current knowledge base with the aim to produce strong evidence-based medicine.

Source: CINAHL

The Role of Complement in the Antiphospholipid Syndrome: A Novel Mechanism for Pregnancy Morbidity.

Author(s) Samarkos, Michael, Mylona, Eleni, Kapsimali, Violeta

Citation: Seminars in Arthritis & Rheumatism, 01 August 2012, vol./is. 42/1(66-69), 00490172

Publication Date: 01 August 2012

Abstract: Objectives: Despite the experimental research data on antiphospholipid syndrome (APS), the pathogenesis of thrombosis and fetal loss remains unknown. The objective of this study was to analyze the major advances in the field of
complement activation as a possible thrombosis mechanism in the APS. Methods: The authors conducted a systemic analysis of the English literature and summarized both animal and human data that indicate the inappropriate complement activation as a mechanism causing thrombosis in the APS. Results: The important role of complement activation in the pathogenesis of fetal loss was established using mice deficient in a complement regulatory protein. Further studies have shown that the infusion of human IgG antiphospholipid antibodies (aPL) induced fetal loss in pregnant mice, an effect that was abrogated by the concurrent administration of a C3 convertase inhibitor. Further studies suggested that C5a and neutrophils were the key components responsible for fetal injury. Moreover, use of F(ab)′2 fragments of aPL suggested the complement activation occurred mainly via the classical pathway. Other studies using models of induced thrombosis suggested that antibodies against β2GPI required the presence of terminal complement components to induce thrombus formation, and mice deficient in C3 or C5 were found to be resistant to aPL-induced thrombosis. Based on the aforementioned findings, it has been suggested that heparin prevents fetal loss in patients with APS by inhibiting complement activation rather than by its anticoagulant effect. Conclusions: The studies on complement are significant because they shift the focus of research in APS from thrombosis to inflammation. However, as human data are limited, more clinical research is necessary before the above findings translate in changes in the management of APS.

Source: CINAHL

Pathophysiology of thrombosis and pregnancy morbidity in the antiphospholipid syndrome.

Author(s) Oku K, Amengual O, Atsumi T
Citation: European Journal of Clinical Investigation, October 2012, vol./is. 42/10(1126-35), 0014-2972;1365-2362 (2012 Oct)
Publication Date: October 2012
Abstract: In patients with the antiphospholipid syndrome (APS), the presence of a group of pathogenic autoantibodies called antiphospholipid antibodies causes arteriovenous thrombosis and pregnancy complications. To date, the pathogenicity of the antiphospholipid antibodies has been the focus of analysis. Recently, the antibodies were reported to be capable of direct cell activation, and research on the underlying mechanism is ongoing. The antiphospholipid antibodies bind to the membranes of vascular endothelial cells, monocytes and platelets, provoking tissue factor expression and platelet aggregation. This activation functions as intracellular signalling, independent of the cell type, to activate p38MAPK and the transcription factor NFB. Currently, there are multiple candidates for the membrane receptors of the antiphospholipid antibodies that are being tested for potential in specific therapy. Recently, APS was reported to have significant comorbidity with complement activation, and it was proposed that this results in placental damage and cell activation and, therefore, could be the primary factor for the onset of pregnancy complications and thrombosis. The detailed mechanism of complement activation remains unknown; however, an inflammation-inducing substance called anaphylatoxin, which appears during the activation process of the classical complement pathway, is thought to be a key molecule. Complement activation occurs in tandem, regardless of the pathology of APS or the type of antiphospholipid antibody, and it is thought that this completely new understanding of the mechanism will contribute greatly to comprehension of the pathology of APS. 2012 The Authors. European Journal of Clinical Investigation 2012 Stichting European Society for Clinical Investigation Journal Foundation.
Source: Medline
Available in fulltext from European Journal of Clinical Investigation at EBSCOhost

Catastrophic antiphospholipid-syndrome (CAPS) - A severe pregnancy complication
Abstract: Antiphospholipid syndrome (APS), is an autoimmune, hypercoagulable state caused by antibodies against cell-membrane phospholipids provoking arterial and venous thromboses as well as pregnancy-related complications such as miscarriage, stillbirth, preterm delivery, or severe preeclampsia. The syndrome occurs due to the autoimmune production of antibodies against phospholipid (aPL), a cell membrane substance. In particular, the disease is characterised by antibodies against cardiolipin (anti-cardiolipin antibodies) and b2 glycoprotein I. In rare cases, APS can lead to rapid organ failure due to generalised thrombosis. This life-threatening complication is termed "catastrophic antiphospholipid syndrome" (CAPS) and is associated with a high maternal mortality. Objectives: To describe the characteristics of patients who developed catastrophic APS triggered during pregnancy and to possibly identify potential risk factors for the development of this complication. Methods: Patients charts of women with autoimmune disorders (such as APS or systemic lupus erythematoses) observed and treated at the University of Graz and The University of Jena between 2007 and 2012 were evaluated. Results: Four cases of CAPS were identified. In all women CAPS occurred as a severe early onset complication (<34 weeks of gestation) and all women had to be delivered by caesarean section between 27 and 32 weeks. With an "individualized" treatment including plasmapheresis, pregnancy can be prolonged for a short period to at least achieve lung maturation by steroids. Several specific features could be found: HELLP (haemolysis, elevated liver enzymes, low platelets) syndrome-like symptoms, eclampsia-like symptoms (headache, amaurosis), abdominal pain resistant to conventional analgesic therapy, and intrauterine growth restriction. Histologic examination after delivery revealed placental infarctions. Conclusion: It is important to consider the possibility of the development of catastrophic APS in those patients with signs of HELLP syndrome and multiorgan failure during pregnancy or puerperium, especially in those patients with previous history of abortions and/or thrombosis. In specialised centers prolongation of pregnancy with an individualized treatment including plasmapheresis may be an option.
Pregnancy implications for systemic lupus erythematosus and the antiphospholipid syndrome.

Author(s) Andreoli L, Fredi M, Nalli C, Reggia R, Lojacono A, Motta M, Tincani A

Citation: Journal of Autoimmunity, May 2012, vol./is. 38/2-3(J197-208), 0896-8411;1095-9157 (2012 May)

Publication Date: May 2012

Abstract: Multidisciplinary approach and patient counselling have been the key points in the improvement of the management of pregnancy in women with systemic lupus erythematosus (SLE) and antiphospholipid syndrome (APS). Most of these women can have successful pregnancy when thoroughly informed and instructed on several different issues. Disease activity should be in stable remission prior to pregnancy in order to reduce the chance for flare during pregnancy. To this purpose, medications must be modulated: "safe" drugs should be continued throughout pregnancy, embryotoxic/foetotoxic drugs should be withdrawn timely, and beneficial drugs such as low dose aspirin and heparin should be added for prophylaxis of maternal and foetal outcome, especially in the presence of antiphospholipid antibodies. The safety profile of anti-rheumatic drugs during pregnancy and breastfeeding should be kept constantly updated, as new data from inadvertent exposure accumulates and new drugs (especially biological agents) are available. Patients may carry autoantibodies that can negatively affect the baby, being neonatal lupus the prototypical case of passively acquired autoimmunity. Research has been greatly active in this field and more information on risk stratification and management are now available for counselling. The effect of both autoantibodies and drug exposure has been evaluated in the offspring: some concerns about learning disabilities have been raised, but these are treatable conditions that are likely to be overcome. To counsel a woman with SLE/APS during childbearing age means also to deal with contraception. Despite the "preferred choice" - combined oral contraceptive - may not be suitable for most of the patients, other options are available and should be offered and discussed with the patient. Fertility is not generally affected in SLE/APS patients, but those cases who require assisted reproduction techniques should be carefully evaluated and managed. Copyright A 2011 Elsevier Ltd. All rights reserved.

Source: Medline

Bemiparin versus low dose aspirin for management of recurrent early pregnancy losses due to antiphospholipid antibody syndrome.

Author(s) Alalaf S

Citation: Archives of Gynecology & Obstetrics, March 2012, vol./is. 285/3(641-7), 0932-0067;1432-0711 (2012 Mar)

Publication Date: March 2012

Abstract: STUDY OBJECTIVE: To compare the live birth rate of women presented with recurrent miscarriages in the first trimester due to antiphospholipid antibody syndrome (APS), randomized to either low molecular weight heparin (Bemiparin) or low dose aspirin (LDA) and to determine the maternal and fetal adverse effects in both treatment groups.PATIENTS AND METHODS: A clinical comparative study was conducted in Maternity teaching Hospital, Erbil city, north of Iraq, Kurdistan region from 15th of September 2007 to the 1st of August 2010 on 141 women presented with 2 or more consecutive miscarriages due to APS, the women randomized to receive either prophylactic dose of Bemiparin with the diagnosis of pregnancy or LDA started preconceptionally and until 36 weeks gestation. The primary outcome was live birth rate in both treatment groups, the secondary outcomes were maternal and fetal complications in both trial groups.RESULT: There was no statistically significant difference between the two groups regarding demographic characters (age groups, parity, gestational age and history of previous abortion), and mode of delivery of the viable newborns. There was a statistically significant difference between the two treatment groups regarding live
The proportions of women who gave birth to a live infant were 72.13% in the LDA group and 86.25% in the Hibor group, the mean difference between the live birth rate in both group was 0.141 (95% Confidence interval of the difference, 0.08, 0.274). The average birth weight for women received LDA was significantly lower than women who received Bemiparin.

**CONCLUSION:** The use of the new second generation LMWH (Bemiparin) in comparison to LDA during pregnancy for prevention of recurrent miscarriage in women with APS is a safe, reliable method with a high live birth rate and no maternal and fetal complications.

**Source:** Medline
Available in fulltext from Archives of Gynecology & Obstetrics at EBSCOhost

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**Much more than thrombosis and pregnancy loss: the antiphospholipid syndrome as a 'systemic disease'.**

**Author(s)** Taraborelli M, Andreoli L, Tincani A

**Citation:** Best Practice & Research in Clinical Rheumatology, February 2012, vol./is. 26/1(79-90), 1521-6942;1532-1770 (2012 Feb)

**Publication Date:** February 2012

**Abstract:** Antiphospholipid syndrome is an auto-immune disorder characterised by recurrent thrombosis, pregnancy losses and the presence of antiphospholipid antibodies. Although it was initially considered an auto-immune coagulopathy, it is now clear that it is a complex and systemic disease. A large number of manifestations in different organs and tissues (cardiac, pulmonary, neurological, renal, cutaneous, haematologic, gastrointestinal, ocular, skeletal and endocrinologic) have been described in these patients. A small group of patients can have a microvascular involvement, which is the most common pathological finding in patients affected by the catastrophic variant of the syndrome. A strong relationship exists between the antiphospholipid syndrome and systemic lupus erythematosus, as demonstrated by common clinical, serological and genetic features and by the few but possible cases evolving from the first disease into the second one over years. Finally, the systemic nature of the antiphospholipid syndrome and the understanding of the mechanisms of antiphospholipid-mediated damage suggest a role of immunomodulation beyond anticoagulation in the therapeutic approach to the disease. 2012 Elsevier Ltd. All rights reserved.

**Source:** Medline

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**Plasma exchange and immunoadsorption effectively remove antiphospholipid antibodies in pregnant patients with antiphospholipid syndrome.**

**Author(s)** Bontadi A, Ruffatti A, Marson P, Tison T, Tonello M, Hoxha A, De Silvestro G, Punzi L

**Citation:** Journal of Clinical Apheresis, 2012, vol./is. 27/4(200-4), 0733-2459;1098-1101 (2012)

**Publication Date:** 2012

**Abstract:** Conventional therapy with aspirin and/or heparin is at times incapable of preventing complications in high risk pregnancies of patients with antiphospholipid syndrome (APS). In those cases, a so-called second-line treatment protocol is used in addition to conventional therapy strategies. This manuscript is a report on three APS pregnant patients who were successfully treated with plasma exchange (PE) (two cases) or with immunoadsorption (IA) (one case) as a second-line treatment strategy. The efficacy of these procedures in removing anticardiolipin (aCL) and anti-beta(2)glycoprotein I (abeta(2)GPI) antibodies from blood was evaluated. Serum samples were collected before and after 87 apheretic treatment sessions. Serum IgG/M aCL and IgG/M abeta(2)GPI antibodies were determined using an "in-house" enzyme-linked immunosorbent assay and showed that all three patients had medium/high IgG aCL and abeta(2)GPI titers. All three women had a successful pregnancy. A significant decrease in IgG aCL (P = 0.0001) and abeta(2)GPI (P = 0.0001) antibody titers was observed after PE and IA sessions. There was moreover a significant, steady fall in serum IgG aCL pretreatment levels.
High positive antibody titers and adverse pregnancy outcome in women with antiphospholipid syndrome.

Author(s) Simchen MJ, Dulitzki M, Rofe G, Shani H, Langevitz P, Schiff E, Pauzner R

Citation: Acta Obstetricia et Gynecologica Scandinavica, December 2011, vol./is. 90/12(1428-33), 0001-6349;1600-0412 (2011 Dec)

Publication Date: December 2011

Abstract: OBJECTIVE: To investigate whether in patients with antiphospholipid syndrome (APS), high positive antibody titers are associated with adverse pregnancy outcome. DESIGN: A retrospective cohort study of prospectively collected data. SETTING: Sheba Medical Center, Israel, a tertiary referral center. POPULATION SAMPLE: Pregnant women with APS. METHODS: Anticardiolipin, anti-beta2-glycoprotein I antibodies, and lupus anticoagulant were measured before pregnancy. Women were divided into those with antibody titers > four times the upper limit of normal (high positive titer, HPT group), and the rest, into the positive titer (PT) group. All women were treated with daily enoxaparin and aspirin. MAIN OUTCOME MEASURES: Composite adverse fetal/neonatal outcome, defined as one or more of the following: fetal/neonatal loss, preterm birth < 32 weeks, and birthweight below than 10th percentile. Composite adverse fetal/neonatal outcome was compared between the HPT and PT groups. Maternal adverse outcomes were also compared. RESULTS: 51 women with APS were followed during 55 pregnancies, 20 in the HPT and 35 in the PT groups. The two groups were similar with regard to previous obstetric and clinical characteristics. Among HPT women, only 7/20 (35%) pregnancies culminated in appropriately grown, live-born infants > 32 weeks’ gestation, compared with 27/35 (77%) PT pregnancies. The risk of adverse fetal/neonatal outcome was 5.7 times higher (95%CI 1.9-17.7) for HPT than for PT women. CONCLUSIONS: Pregnant women with APS and high positive antiphospholipid antibody titers are a unique and extremely high risk group for adverse fetal/neonatal outcome. Stricter surveillance and possibly additional therapy options should be explored for this patient population. 2011 The Authors Acta Obstetricia et Gynecologica Scandinavica 2011 Nordic Federation of Societies of Obstetrics and Gynecology.

Source: Medline

Available in fulltext from Acta Obstetricia et Gynecologica Scandinavica at EBSCOhost

Obstetric antiphospholipid syndrome: an update on pathophysiology and management.

Author(s) Ernest JM, Marshburn PB, Kutteh WH

Citation: Seminars in Reproductive Medicine, November 2011, vol./is. 29/6(522-39), 1526-4564;1526-4564 (2011 Nov)

Publication Date: November 2011

Abstract: Antiphospholipid antibodies (aPLs) are acquired antibodies directed against negatively charged phospholipids, a group of inner and outer cell membrane antigens found in mammals. Obstetric antiphospholipid antibody syndrome (APS) is diagnosed in the presence of certain clinical features in conjunction with positive laboratory findings. Although obstetric APS was originally reported in association with slow progressive thrombosis and infarction in the placenta, it is most often associated with a poor obstetric outcome. In fact, obstetric APS is one of the most commonly identified causes of recurrent pregnancy loss
(RPL). Thus obstetric APS is distinguished from APS in other organ systems where the most common manifestation is thrombosis. Several pathophysiological mechanisms of action of aPLs have been described. The most common histopathological finding in early pregnancy loss has been defective endovascular decidual trophoblastic invasion. Treatment with heparin and aspirin is emerging as the therapy of choice, with ~75% of treated women with RPL and aPLs having a successful delivery compared with <50% without treatment. This review highlights the diagnostic challenges of obstetric APS, the obstetric complications associated with APS, proposed pathophysiological mechanisms of APS during pregnancy, and the management of women during and after pregnancy.

Source: Medline

Evidence for heterogeneity of the obstetric antiphospholipid syndrome: thrombosis can be critical for antiphospholipid-induced pregnancy loss.

Author(s) Poindron V, Berat R, Knapp AM, Toti F, Zobairi F, Korganow AS, Chenard MP, Gounou C, Pasquali JL, Brisson A, Martin T

Citation: Journal of Thrombosis & Haemostasis, October 2011, vol./is. 9/10(1937-47), 1538-7836;1538-7836 (2011 Oct)

Publication Date: October 2011

Abstract: BACKGROUND: Antiphospholipid antibodies are associated with thrombosis and repeated pregnancy losses during the antiphospholipid syndrome. Several experimental findings indicate that purified antiphospholipid antibodies are directly responsible for inflammation-induced pregnancy losses, or for disruption of the annexin A5 shield at the trophoblastic interface. We previously showed that passive transfer of CIC15, a monoclonal antiphospholipid antibody binding to cardiolipin and annexin A5 that was isolated from a patient with primary antiphospholipid syndrome, induces fetal resorption in pregnant mice.OBJECTIVES: To investigate the mechanisms of CIC15-induced pregnancy loss.METHODS/RESULTS: We show that CIC15 induces fetal loss through a new mechanism that is probably related to procoagulant activity. The time course is different from those of previously described models, and histologic analysis shows that the placentas are devoid of any sign of inflammation but display some signs of thrombotic events. Despite these differences, the CIC15 and ‘inflammatory’ models share some similarities: lack of FcRI/III dependency, and the efficacy of heparin in preventing fetal losses. However, this latter observation is here mostly attributable to anticoagulation rather than complement inhibition, because fondaparinux sodium and hirudin show similar efficiency. In vitro, CIC15 enhances cardiolipin-induced thrombin generation. Finally, using a combination of surface-sensitive methods, we show that, although it binds complexes of cardiolipin-annexin A5, CIC15 is not able to disrupt the two-dimensional ordered arrays of annexin A5.CONCLUSIONS: This human monoclonal antibody is responsible for pregnancy loss through a new mechanism involving thrombosis. This mechanism adds to the heterogeneity of the obstetric antiphospholipid syndrome. 2011 International Society on Thrombosis and Haemostasis.

Source: Medline

Available in fulltext from Journal of Thrombosis & Haemostasis at EBSCOhost
Available in fulltext from Journal of Thrombosis and Haemostasis at Ingenta
Available in fulltext from Journal of Thrombosis and Haemostasis at Wiley

A two-center study on the pharmacokinetics of intravenous immunoglobulin before and during pregnancy in healthy women with poor obstetrical histories.

Author(s) Ensom MH, Stephenson MD

Citation: Human Reproduction, September 2011, vol./is. 26/9(2283-8), 0268-1161;1460-2350 (2011 Sep)

Publication Date: September 2011

Abstract: BACKGROUND: Despite the increasing use of intravenous
immunoglobulin (IVIG) in obstetrics, information on its pharmacokinetics and optimal dosing during each trimester pregnancy is lacking. The aim of this study was to characterize IVIG pharmacokinetics in pregnant women with a history of idiopathic secondary recurrent miscarriage or obstetrical antiphospholipid syndrome and to make dosing recommendations by comparing serum immunoglobulin G (IgG) concentrations in women receiving IVIG to placebo controls, before and during pregnancy.

METHODS: Women enrolled in an IVIG trial for idiopathic secondary recurrent miscarriage (n = 25) or an IVIG study for obstetrical antiphospholipid syndrome (n = 10); 22 received IVIG 0.5-1.0 g/kg and 13 received the equivalent volume of saline, every 4 weeks from pre-pregnancy until 18-20 weeks of gestation, with dosing adjusted for her weight prior to each infusion. Serum IgG concentrations were measured by rate nephelometry before and 0.5 h, and 1, 2, 3 and 4 weeks following an infusion. Sampling was performed pre-pregnancy and in the first and second trimesters.

RESULTS: Area under the curve (AUC) did not differ significantly within the IVIG group between the three sampling periods. Estimated contributions of IVIG [calculated as mean AUC (IVIG group) minus mean AUC (control group)] were 4890.8 g h/l pre-pregnancy, 5591.4 g h/l first trimester and 4755.1 g h/l second trimester (P> 0.05, non-significant). For the IVIG 0.5 and 1.0 g/kg subgroups, the overall estimated contribution of exogenous IVIG was ~4000 and ~6400 g h/l, respectively.

CONCLUSIONS: With a weight-adjusted dosage of IVIG, drug exposure, based on AUC calculations, was maintained at the pre-pregnancy level. Therefore, we recommend a weight-adjusted dosage of IVIG during the first and second trimesters.

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Available in fulltext from Human Reproduction at Free Access Content

Thrombotic events during long-term follow-up of obstetric antiphospholipid syndrome patients.

Author(s) Lefevre G, Lambert M, Bacri JL, Dubucquoi S, Quemeneur T, Caron C, Launay D, Houfflin-Debarge V, Hachulla E, Kyndt X, Subtil D, Hatron PY
Citation: Lupus, July 2011, vol./is. 20/8(861-5), 0961-2033;1477-0962 (2011 Jul)
Publication Date: July 2011
Abstract: Antiphospholipid syndrome (APS) is a systemic autoimmune disorder characterized by arterial and/or venous thromboses and/or pregnancy-associated morbidity. Some patients develop only obstetric complications (obstetric APS), but data on the frequency of thrombotic events during the follow-up of these patients are scarce. This study was undertaken to evaluate the rate of thrombotic events after obstetric APS diagnosis according to the 2006 revised criteria. In total, 32 obstetric APS patients were retrospectively studied, with mean follow-up of 50+37 months. After delivery, aspirin was prescribed to all patients as primary thrombosis prevention. The thrombosis rate was 3.3/100 patient-years and was 4.6, 4.5 and 10/100 patient-years when we considered at least two antiphospholipid antibody positivities (among lupus anticoagulant, anticardiolipin and anti-beta2-glycoprotein-I), antinuclear antibody positivity or systemic lupus erythematosus-associated APS patients, respectively. The thrombosis rate was high after obstetric APS diagnosis, even for patients taking aspirin. Larger, prospective studies are needed to confirm this high frequency and determine the associated risk factors.

Source: Medline
Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select ‘Athens (OpenAthens Federation)’ from Select Region, and then ‘NHS England’ from Choose your Library.
Available in fulltext from Lupus at EBSCOhost
Adjusted prophylactic doses of nadroparin plus low dose aspirin therapy in obstetric antiphospholipid syndrome. A prospective cohort management study.

Author(s): Ruffatti A, Gervasi MT, Favaro M, Ruffatti AT, Hoxha A, Punzi L

Citation: Clinical & Experimental Rheumatology, May 2011, vol./is. 29/3(551-4), 0392-856X;0392-856X (2011 May-Jun)

Publication Date: May 2011

Abstract: OBJECTIVES: Current guidelines for the treatment of patients with obstetric antiphospholipid syndrome (APS) recommend low dose aspirin (LDA) and prophylactic doses of low molecular weight heparin (LMWH). Most clinicians use a fixed dosage of LMWH in pregnant APS women despite the fact that there are no clinical trials establishing that fixed doses are more efficacious than adjusted ones in preventing pregnancy complications. The efficacy and safety of adjusted single daily doses of LMWH (nadroparin) combined with LDA have thus been evaluated in 33 consecutive pregnancies in women with diagnosed obstetric APS.

METHODS: LMWH doses were augmented as the pregnancies progressed and maternal/foetal weight increased. 70-80-90 U/Kg doses ranging between 3800 and 6650 U were administered daily during the first, second and third trimesters, respectively. LDA (100 mg/day) was also prescribed.

RESULTS: Pregnancy outcome was successful in 97% of the patients studied, who delivered, between the 29th and 41st weeks of gestation (mean 37.4 +2.1 SD), 32 infants with a mean birth weight of 3084 g + 514 SD. One woman (3%) experienced a spontaneous abortion at the 8th week of gestation.

CONCLUSIONS: The high live birth rate, the satisfactory mean gestational age and weight at birth and the absence of major pregnancy/neonatal-associated complications indicate that adjusted, once daily doses of LMWH together with LDA could be an efficacious treatment option for pregnant APS patients with no history of thrombosis.

Source: Medline

Contribution of the addition of anti-beta2-glycoprotein to the classification of antiphospholipid syndrome in predicting adverse pregnancy outcome.

Author(s): Oron G, Ben-Haroush A, Goldfarb R, Molad Y, Hod M, Bar J

Citation: Journal of Maternal-Fetal & Neonatal Medicine, April 2011, vol./is. 24/4(606-9), 1476-4954;1476-4954 (2011 Apr)

Publication Date: April 2011

Abstract: OBJECTIVES: Anti-beta2 glycoprotein 1 (a-beta2GP1) was added to the criteria for antiphospholipid syndrome (APS) in 2005. However, its clinical significance with respect to complications of pregnancy is not well established. The aim of this study was to evaluate the association of laboratory findings of a-beta2GP1 with events of thromboembolism or obstetric complications (pregnancy loss, placental dysfunction, intrauterine growth restriction, preeclampsia, fetal death, and preterm delivery) in women with clinical and laboratory evidence of APS.

METHODS: A retrospective cohort design was used. Ninety-one patients (total 394 pregnancies) referred to a tertiary medical center for evaluation of clinical features consistent with APS were divided into three groups: group A (n=34), two positive tests for anticardiolipin (ACL) or lupus anticoagulant (LAC), in accordance with original APS classification (1998); group B (n=18), two positive tests for a-beta2GP1, in accordance with the revised APS criteria; and group C (n=39), only one positive test for ACL or LAC.

RESULTS: Of the 52 women with APS (group A or B), 36 had primary disease, and 16 had secondary disease. On comparison of the groups, group B was characterized by a significantly higher rate of complicated pregnancy (83.3%) than groups A (47.1%) and C (76.9%), P=0.007, and a higher rate of fetal loss (72.2%) than groups A+C (28.8%, P=0.001).

CONCLUSIONS: The findings suggest that the revised APS criteria are preferable to the original classification for the prediction of complicated pregnancy.

Source: Medline

Available in fulltext from Journal of Maternal-Fetal & Neonatal Medicine at EBSCOhost
Antiphospholipid Syndrome during pregnancy: the state of the art.

Author(s) Di Prima FA, Valenti O, Hyseni E, Giorgio E, Faraci M, Renda E, De Domenico R, Monte S

Citation: Journal of Prenatal Medicine, April 2011, vol./is. 5/2(41-53), 1971-3282;1971-3290 (2011 Apr)

Publication Date: April 2011

Abstract: Obstetric complications are the hallmark of antiphospholipid syndrome. Recurrent miscarriage, early delivery, oligohydramnios, prematurity, intrauterine growth restriction, fetal distress, fetal or neonatal thrombosis, pre-eclampsia/eclampsia, HELLP syndrome, arterial or venous thrombosis and placental insufficiency are the most severe APS-related complication for pregnant women. Antiphospholipid antibodies promote activation of endothelial cells, monocytes and platelets, causing an overproduction of tissue factor and thromboxane A2. Complement activation might have a central pathogenetic role. These factors, associated with the typical changes in the hemostatic system during normal pregnancy, result in a hypercoagulable state. This is responsible of thrombosis that is presumed to provoke many of the pregnancy complications associated with APS. Obstetric care is based on combined medical-obstetric high-risk management and treatment with the association between aspirin and heparin. This review aims to determine the current state of the art of APS by investigating the knowledge achievements of recent years, to provide the most appropriate diagnostic and therapeutic management for pregnant women suffering from this syndrome.

Source: Medline

Available in fulltext from Journal of Prenatal Medicine at National Library of Medicine

Antiphospholipid syndrome and pre-eclampsia.

Author(s) Heilmann L, Schorsch M, Hahn T, Fareed J

Citation: Seminars in Thrombosis & Hemostasis, March 2011, vol./is. 37/2(141-5), 0094-6176;1098-9064 (2011 Mar)

Publication Date: March 2011

Abstract: Antiphospholipid syndrome (APS) is defined as an autoimmune disorder characterized by recurrent thrombosis or obstetrical morbidity. These features are linked to the presence in blood of autoantibodies against negatively charged phospholipids or phospholipid-binding proteins. Obstetric morbidity includes recurrent abortion (early and late) and severe pre-eclampsia (P-EC)/hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome, and/or severe placental insufficiency. Criteria that define the major clinical and laboratory events were published in revised forms in the Sydney recommendations in 2006. We analyzed the blood of patients with severe P-EC according to the subgroups based on the 2006 revised criteria definition and compared these results with women after uncomplicated pregnancy and delivery. We found 20% elevated antiphospholipid antibodies (APAs) in women with severe P-EC (group I, 7.5%; group IIa, 5.0%; group IIb, 5.0%; group IIc, 2.5%). The increased APAs were observed only in women with severe P-EC (odds ratio: 2.45; 95% confidence interval, 1.01 to 4.3) and not in patients with severe P-EC at >34 weeks of gestation. According to our retrospective observation, we recommend the determination of anticardiolipin antibodies, lupus anticoagulant, and beta-2 glycoprotein-1 antibodies in patients with severe P-EC at <34 weeks of gestation. Thieme Medical Publishers.

Source: Medline

Enoxaparin versus unfractionated heparin in the management of recurrent abortion secondary to antiphospholipid syndrome.
OBJECTIVE: To determine whether low molecular weight heparin (LMWH) plus low-dose aspirin (LDA) is comparable in efficacy and safety to unfractionated heparin (UFH) plus LDA in the management of pregnant women with a history of recurrent spontaneous abortion secondary to antiphospholipid syndrome (APS). METHODS: In a randomized prospective study, 60 women with a history of 3 or more consecutive spontaneous abortions and positive antiphospholipid antibodies were assigned in equal numbers to receive either UFH (5000 units, twice daily) plus LDA, or LMWH (enoxaparin 40 mg, once daily) plus LDA as soon as pregnancy was diagnosed. RESULTS: Twenty-four women in the LMWH group (80%) and 20 women in the UFH group (66.67%) delivered a viable infant (P = 0.243). There were no significant differences in pregnancy complications or neonatal morbidity between the 2 groups. There were no incidences of excessive bleeding, thrombocytopenia, or osteoporotic fractures in either group. CONCLUSION: LMWH plus LDA was successfully used as an alternative to UFH plus LDA in the management of recurrent abortion secondary to APS. The results highlight the need for a larger randomized controlled trial to determine whether LMWH plus LDA should be the treatment of choice for recurrent abortion secondary to APS. Clinicaltrials.gov NCT01051778. Copyright 2010 International Federation of Gynecology and Obstetrics. Published by Elsevier Ireland Ltd. All rights reserved.

Source: Medline


Author(s) Branch W, Obstetric Task Force

Citation: Lupus, February 2011, vol./is. 20/2(158-64), 0961-2033;1477-0962 (2011 Feb)

Publication Date: February 2011

Abstract: The Obstetric APS Task Force of the 13th International Congress identified and discussed five general topics within 'Obstetric' Antiphospholipid Syndrome (APS) that contained areas of controversy or uncertainty: recurrent early miscarriage (REM), fetal death, delivery <34 weeks for severe preeclampsia or placental insufficiency, postpartum care, and long-term implications and care. The Task Force concluded that the frequency with which women with REM have a high titer of antiphospholipid antibodies (aPL) or lupus anticoagulant (LA) is somewhat controversial, especially with regard to the diagnostic titers required by the current international criteria for APS. Also, treatment trials involving heparin differ from one another with regard to the patients included and the outcomes achieved. Similarly, the frequency with which women with fetal death or delivery <34 weeks for severe preeclampsia or placental insufficiency have a high titer of aPL or LA is poorly defined, and there is no level I evidence to guide treatment in either group. Suggestions for future studies with regard to both REM and fetal death or delivery <34 weeks for severe preeclampsia or placental insufficiency were discussed and are outlined below. Postpartum and long-term care in women with APS diagnosed solely for obstetric criteria has been largely guided by expert opinion, and systematic evaluations of these populations would be welcome.

Source: Medline

Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library. Available in fulltext from Lupus at EBSCOhost
Antiphospholipid antibody syndrome in a tertiary care center.

Author(s) Dadhwal V, Sharma AK, Deka D, Gupta B, Mittal S

Citation: Journal of Postgraduate Medicine, January 2011, vol./is. 57/1(16-9), 0022-3859;0022-3859 (2011 Jan-Mar)

Publication Date: January 2011

Abstract: BACKGROUND: Antiphospholipid antibody syndrome (APAS) is regarded as the most frequently acquired risk factor for thrombophilia. The obstetric manifestations of APAS include early or late pregnancy losses and complications like preeclampsia and fetal growth restriction. Its timely diagnosis and treatment can improve maternal and neonatal outcome. Aims: To study the pregnancy outcome of patients with APAS treated with heparin and aspirin.

SETTINGS AND DESIGN: This was a retrospective study of pregnancy outcome in 42 consecutive women with APAS, treated with heparin and aspirin.

MATERIALS AND METHODS: The case records of 42 diagnosed cases of APAS with pregnancy, over a 3-year period, were studied. The pregnancy outcome in this group was compared before and after treatment with heparin and low-dose aspirin in terms of abortions, intrauterine deaths and live birth rate. The outcome of the present pregnancy in terms of fetal and maternal complications was analyzed.

RESULTS: The mean age and average parity of women with APAS were 30.1±4.1 years and 3.2±1.2, respectively. Among the treated patients of APAS, 13 (30.9%) had preeclampsia and 9 (21.4%) had intrauterine growth restriction (IUGR). There were 2 (4.7%) intrauterine deaths, 4 (9.5%) missed abortions and 3 (7.1%) abruptio placentae. Women with APAS had a live birth rate of 4.6% before treatment and 85.7% in the index pregnancy after treatment.

CONCLUSION: Treatment of pregnant women with APAS results in marked improvement in the live birth rate (4.6-85.7%). However, complications like preeclampsia and IUGR occur even after treatment, requiring strict monitoring and timely delivery.

Source: Medline

Available in fulltext at Journal of Postgraduate Medicine; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

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Severe renal hemorrhage in a pregnant woman complicated with antiphospholipid syndrome: a case report.

Author(s) Kawaguchi S, Izumi K, Nohara T, Miyagi T, Konaka H, Mizokami A, Koh E, Namiki M

Citation: Advances in Urology, 2011, vol./is. 2011/(791094), 1687-6369;1687-6377 (2011)

Publication Date: 2011

Abstract: Antiphospholipid syndrome is a systemic autoimmune disease with thrombotic tendency. Consensus guidelines for pregnancy with antiphospholipid syndrome recommend low-dose aspirin combined with unfractionated or low-molecular-weight heparin because antiphospholipid syndrome causes habitual abortion. We report a 36-year-old pregnant woman diagnosed with antiphospholipid syndrome receiving anticoagulation treatment. The patient developed left abdominal pain and gross hematuria at week 20 of pregnancy. An initial diagnosis of left ureteral calculus was made. Subsequently abdominal-pelvic computed tomography was required for diagnosis because of the appearance of severe contralateral pain. Computed tomography revealed serious renal hemorrhage, and ureteral stent placement and pain control by patient-controlled analgesia were required. After treatment, continuance of pregnancy was possible and vaginal delivery was performed safely. This is the first case report of serious renal hemorrhage in a pregnant woman with antiphospholipid syndrome receiving
Heparin or aspirin or both in the treatment of recurrent abortions in women with antiphospholipid antibody (syndrome).

**Source:** Medline

Available in fulltext from Advances in Urology at Directory of Open Access Journals

Available in fulltext from Advances in Urology at National Library of Medicine

**Abstract:** PURPOSE OF REVIEW: Presence of antiphospholipid antibodies (aPL) is associated with unsuccessful pregnancy outcome. Based on an early concept of aPL-induced thrombophilia and placental thrombosis, antithrombotic interventions have been used to reduce incidence of miscarriage in antiphospholipid antibody syndrome (APS). The aim of this review is to summarize current knowledge on pathogenesis of miscarriage in APS and the impact of different antithrombotic therapy strategies. RECENT FINDINGS: Pathogenetic concepts on miscarriage in APS comprise aPL-mediated cell activation, disturbance of coagulation along with increased complement activation. There is increasing evidence that heparin exerts its effect by inhibiting complement activation rather than by its anticoagulation capacity. In this regard, the outcome of pregnancies in APS has considerably improved by the invention of therapies using combinations of aspirin, unfractionated heparin (UFH) and/or low molecular weight heparin (LMWH). However, there is no clear evidence as to which treatment regimen should be preferred. Some studies indicate superiority of aspirin plus heparin over aspirin-only. Whether heparin-only treatment would confer equal effects and whether UFH and LMWH were of comparable efficacy currently is unknown. SUMMARY: Treatment with aspirin and heparin decreases the risk of miscarriages in APS. Well designed trials as well as better patients-at-risk profiling are warranted that identify which treatment strategy should be favored and whether detailed characterization of aPL specificities could help in individualizing therapy.

**Source:** CINAHL

Obstetric antiphospholipid syndrome - A review

**Author(s)** Schreiber K., Ateka-Barrutia O., Khamashta M.A., Hughes G.R.V.

**Citation:** Fetal and Maternal Medicine Review, November 2011, vol./is. 22/4(265-286), 0965-5395;1469-5065 (November 2011)

**Publication Date:** November 2011

**Source:** EMBASE

Available in fulltext at Fetal and Maternal Medicine Review; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

Acute myocardial infarction due to antiphospholipid antibody syndrome in a young pregnant woman

**Author(s)** Cakmak H.A., Aslan S., Durmaz E., Karadag B., Enar R.

**Citation:** Journal of Cardiology Cases, August 2011, vol./is. 4/1(e8-e12), 1878-5409 (August 2011)

**Publication Date:** August 2011

**Abstract:** Myocardial infarction (MI) in pregnant patients confer additional risks and unique problems related to necessity of concomitant obstetric interventions and coexistence of disorders as hypercoagulability. Therefore, patients usually have a more complicated course which demands prompt diagnosis and appropriate treatment. Here we report a 22 year old pregnant woman with an acute
anterior myocardial infarction and the complicated course of the management. Although the patient underwent a successful percutaneous coronary intervention at the first presentation with MI, one week later she suffered a stent thrombosis presumably due to cessation of clopidogrel in order to prevent bleeding before the termination of pregnancy. Later, a detailed examination of the patient has led to diagnosis of antiphospholipid antibody syndrome. 2011 Japanese College of Cardiology.

Source: EMBASE

Ultrasonography in pregnant women with antiphospholipid syndrome using salicylic acid and heparin.

Author(s) Calderon AC, Berezowski AT, Marcolin AC, Martins WP, Duarte G, Cavalli RC

Citation: Archives of Gynecology & Obstetrics, July 2011, vol./is. 284/1(79-84), 0932-0067;1432-0711 (2011 Jul)

Publication Date: July 2011

Abstract: PURPOSE: The objective of the present study was to evaluate fetal biometry, Doppler values, and perinatal outcomes in pregnant women with antiphospholipid syndrome treated with acetylsalicylic acid and heparin.STUDY DESIGN: Twenty-five pregnant women with antiphospholipid syndrome using 100 mg/day acetylsalicylic acid and 5,000 IU heparin every 12 h were evaluated in this prospective observational study. Ultrasonography was performed between 24 and 38 weeks of gestational age to assess estimated fetal weight, placental thickness, amniotic fluid index, fetal biophysical profile and Doppler evaluation of maternal uterine arteries, and fetal middle cerebral and umbilical arteries. Data regarding Apgar score, gender, delivery mode, and birth weight and length were recorded after birth.RESULTS: The observed values for ultrasonographic assessment and perinatal outcomes were not very different from the expected values for normal pregnancies. The birth weight was 2863.3 + 737.7 g (mean + SD) and length was 46.8 + 4.2 cm. Only one newborn (4%) had the 1-min Apgar score <7 and all had the 5-min Apgar score >7.CONCLUSION: Gestational and perinatal evaluation of pregnant women with antiphospholipid syndrome using both acetylsalicylic acid and heparin was reassuring.

Source: Medline

Available in fulltext from Archives of Gynecology & Obstetrics at EBSCOhost

Recurrent pregnancy loss and association with anti phospholipid syndrome

Author(s) Kara M., Caglayan E.K., Gunaydin I.

Citation: Pakistan Journal of Medical Sciences, April 2011, vol./is. 27/3(682-685), 1682-024X (April - June 2011)

Publication Date: April 2011

Abstract: Recurrent miscarriage, the occurrence of three consecutive first-trimester losses of pregnancy, affects 1-3 % of pregnant women. The purported causes of recurrent miscarriage include chromosomal abnormalities, thrombophilia, metabolic disorders, anatomical and immunological disturbances. At present, the only recommended investigations are testing for lupus anticoagulant and anticardiolipin antibody levels to diagnose the antiphospholipid syndrome, an acquired thrombophilia and the karyotyping of both parents for chromosomal abnormalities. The Antiphospholipid Syndrome (APS) is an autoimmune disorder characterized by thrombosis, recurrent loss of pregnancy combined with laboratory tests that indicate the presence of antibodies against phospholipid binding proteins. Clinically relevant antiphospholipid antibodies are mainly anticardiolipin antibodies detected by enzyme linked immuno sorbent assay (ELISA) and lupus anticoagulants demonstrated by in vitro coagulation assay. Women with antiphospholipid syndrome should be offered treatment with aspirin and low subcutaneous heparin. We aimed to summarize current concepts on diagnosis and treatment in recurrent loss of pregnancies and APS.
MRI diagnosis and follow-up of hepatic infarction in a patient with antiphospholipid syndrome in early pregnancy.

Author(s) Guiu B, Loffroy R, Cercueil JP, Sagot P, Krause D, Tixier H

Citation: Archives of Gynecology & Obstetrics, March 2011, vol./is. 283/3(659-62), 0932-0067;1432-0711 (2011 Mar)

Publication Date: March 2011

Abstract: Hepatic infarction is rare in hemolysis, elevated liver enzymes, and low platelets syndrome. We described a case of a 24-year-old woman who was admitted at week 17 of pregnancy with an antiphospholipid syndrome. Magnetic resonance imaging was the imaging modality of choice for diagnosing hepatic infarction, guiding treatment, ensuring the early detection of bleeding, and monitoring liver recovery.

Source: Medline Available in fulltext from Archives of Gynecology & Obstetrics at EBSCOhost

Role of tissue factor in the maternal immunological attack of the embryo in the antiphospholipid syndrome.

Author(s) Girardi G

Citation: Clinical Reviews in Allergy & Immunology, December 2010, vol./is. 39/3(160-5), 1080-0549;1559-0267 (2010 Dec)

Publication Date: December 2010

Abstract: Recurrent fetal loss affects 1-5% of women of childbearing age. Immunological mechanisms may account for 40% of recurrent miscarriages, and in particular, the antiphospholipid syndrome (APS) appears to be implicated in 7-25% of the cases. Because antiphospholipid (aPL) antibodies have thrombogenic properties, fetal loss in patients with APS has been ascribed to thrombosis of placental vessels. However, we have shown that inflammation, specifically activation of complement with generation of the anaphylotoxin C5a, is an essential trigger of fetal injury. Thrombosis and inflammation are linked in many clinical conditions. Tissue factor (TF), the major cellular initiator of the coagulation protease cascade, plays important roles in both thrombosis and inflammation, and its expression is increased in patients with APS. Here we describe how TF, acting as a proinflammatory molecule, induces trophoblast injury and fetal death in a mouse model of APS. Importantly, we will discuss how TF contributes to C5a-induced oxidative burst in neutrophils leading to trophoblasts and fetal injury in APS. The finding that TF is an important effector in aPL-induced inflammation may allow the development of new therapies to abrogate the inflammatory loop caused by tissue factor and improve pregnancy outcomes in patients with aPL antibodies. Statins downregulate TF-induced inflammation and rescued the pregnancies in aPL-treated mice, suggesting they may be a good treatment for women with aPL-induced pregnancy complications.

Source: Medline Available in fulltext from Clinical Reviews in Allergy & Immunology at EBSCOhost

Available in fulltext at Clinical Reviews in Allergy and Immunology; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

Pregnancy-triggered antiphospholipid syndrome in a patient with multiple late miscarriages.

Author(s) Honig A, Engel JB, Segerer SE, Kranke P, Hausler S, Wurfel W

Citation: Human Reproduction, November 2010, vol./is. 25/11(2753-4), 0268-1161;1460-2350 (2010 Nov)
Antiphospholipid syndrome (APS) is a multisystemic disorder of coagulation-causing thrombosis in the arterial and venous system as well as pregnancy-related complications such as miscarriage, stillbirth, preterm delivery and pre-eclampsia. The disease is characterized by the autoimmune production of antibodies against phospholipid, a substance found in the cell membrane. We here report the case of a patient with four second trimester miscarriages, who apart from a heterozygous plasminogen activator-inhibitor-1 mutation, had no risk factors explaining her condition. In the subsequent pregnancy she was therefore put on low-molecular-weight heparin, aspirin and granulocyte colony-stimulating factor. Antiphospholipid antibodies (APL), which had been negative before gestation, increased and remained high throughout pregnancy, thus suggesting a pregnancy-induced or -aggravated APS. The patient was kept on the above-mentioned medication and delivered a healthy male baby by Caesarean section after an otherwise uneventful pregnancy. Thus, in order to diagnose and treat pregnancy-triggered APS in patients with unexplained recurrent miscarriage, screening for APL should also be performed at several time points after conception.

Sources:
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Antiphospholipid syndrome in pregnancy

Author(s) Soh M.C., Nelson-Piercy C.

Citation: Expert Review of Obstetrics and Gynecology, November 2010, vol./is. 5/6(741-761), 1747-14108 (November 2010)

Publication Date: November 2010

Abstract: Antiphospholipid syndrome is a heterogenous disorder with many pregnancy-related complications. Despite the refinement of laboratory testing and classification criteria, controversy continues regarding the management of women with antiphospholipid antibodies (aPLs) in pregnancy. This is compounded by the lack of large randomized placebo-controlled trials in pregnancy. This article attempts to address some of the controversies and suggest management guidelines. The issues discussed include: pathogenesis and clinical relevance of aPLs, clinical implications of aPLs for the mother and fetus, management of the different clinical phenotypes of antiphospholipid syndrome and its overlap with systemic lupus erythematosus, treatment options in pregnancy and breast feeding. We review controversies regarding the appropriateness of anticoagulant use in women with recurrent pregnancy losses and aPLs, and issues surrounding heparin dosing regimens. We have also included suggestions for the directions of future studies. 2010 Expert Reviews Ltd.

Source: EMBASE

Available in fulltext at Expert Review of Obstetrics and Gynecology

Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

Late obstetric complications in antiphospholipid syndrome: Clinical presentation and management

Author(s) Khalil A., Hills J., O'Brien P., Cohen H.

Citation: Pregnancy Hypertension, October 2010, vol./is. 1/(S25), 2210-7789 (October 2010)

Publication Date: October 2010

Abstract: Background: Late obstetric complications can occur in antiphospholipid syndrome (APS) although data supporting diagnostic criteria and management
remain limited. The Sydney criteria for late obstetric morbidity in APS include one or more preterm births of a morphologically normal neonate at or before 34 weeks' gestation because of severe pre-eclampsia/eclampsia or severe placental insufficiency. Aims: The main aim of this study was to investigate the applicability of Sydney criteria to women with late obstetric APS and audit the pregnancy outcomes pre- and post-thromboprophylaxis. Methods: We analysed 90 pregnancies in 27 women with a history of late obstetric complications associated with persistent antiphospholipid antibodies (aPL). aPL positivity was based on testing for lupus anticoagulant (LA) according to ISTH guidelines, IgG and IgM aCL and a beta2GP1 by standardised ELISA. Results: In 55 untreated pregnancies, outcomes were: live births 13 (27%); pregnancy losses >24 weeks 10 (18%), intrauterine growth restriction (IUGR) 8 (14.5%), pre-eclampsia 3 (5.4%), placental abruption 2 (3.6%) and pregnancy losses <20 weeks 25 (45%). The median gestation of live births in untreated pregnancies was 34 (range 21-40) weeks. The rate of preterm birth =34 weeks' gestation was 41%. The outcomes of 35 pregnancies treated with prophylactic dose low molecular weight heparin (LMWH) and low-dose aspirin (LDA) 75 mg daily were: live births 27 (77%); IUGR 1 (2.2%), pre-eclampsia 4 (11%), placental abruption 4 (11%) and pregnancy losses <20 weeks 7 (20%). There were no pregnancy losses >24 weeks. The median gestation of live births in treated pregnancies was 38 (range 28-40) weeks and preterm birth =34 weeks was 3%. Conclusion: Our data suggest that the Sydney criteria for late obstetric APS appear generally applicable and identify women who would benefit from thromboprophylaxis in pregnancy. However, a proportion of women in whom there might be therapeutic implications, may be excluded.

Source: EMBASE

High-dose unfractionated heparin therapy in a pregnant patient with antiphospholipid syndrome: a case report.


Citation: International Journal of Rheumatic Diseases, August 2010, vol./is. 13/3(e32-5), 1756-1841;1756-185X (2010 Aug)

Publication Date: August 2010

Abstract: A case of a 37-year-old pregnant patient with antiphospholipid syndrome (APS), who has a medical history of both thrombosis and recurrent fetal loss, is presented. She was treated with predonisolone and fixed-dose unfractionated heparin (UFH) infusion, followed by plasmaphereses and fixed-dose low-molecular-weight heparin infusion during her fourth pregnancy. Unfortunately, this treatment did not have beneficial effects, resulting in intrauterine growth restriction and finally neonatal death. Continuous intravenous UFH infusion and low-dose aspirin were administrated under the monitoring of the activated partial thromboplastin time to achieve a target level of 120 s during her fifth pregnancy. A healthy baby weighing 1818 g at birth was delivered by Cesarean section at the 34th week of pregnancy. High-dose UFH infusion may be considered to be one of the preferable options to manage pregnant patients with refractory APS.

Source: Medline
Available in fulltext from International Journal of Rheumatic Diseases at EBSCOhost

Role of anti-thrombotic therapy for recurrent pregnancy loss due to antiphospholipid syndrome.

Author(s) Fawad S

Citation: Journal of Ayub Medical College, Abbottabad: JAMC, July 2010, vol./is. 22/3(197-200), 1025-9589;1025-9589 (2010 Jul-Sep)

Publication Date: July 2010

Abstract: BACKGROUND: Recurrent pregnancy loss is a major health problem
effecting 1 (see symbol) 2% of women of reproductive age. Its causes range from chromosomal abnormalities to endocrinological factors and thrombophilia related factors. Treating thrombophilies especially antiphospholipid syndrome with low dose aspirin and low molecular weight heparin improves foetal outcome. This study will add local data to already existing knowledge.

METHOD: Sixty selected patients from gynaecology OPD of Aero Hospital with clinical and/or serological findings of antiphospholipid syndrome from February 2009 to January 2011 were given aspirin 75 mg once daily and enoxaparine 40 mg subcutaneously once daily from 6-8 weeks to 35 and 37 weeks respectively.

RESULTS: Ninety-three percent of patients achieved live birth. Out of these 75% patients delivered at term and 18% had preterm delivered. Four (7%) had early pregnancy loss and only one had early neonatal death due to extreme prematurity. None of patients experienced any major hemorrhagic complications.

CONCLUSION: Use of low dose aspirin and low molecular weight heparin is safe in pregnancy and improve foetal outcome in patients with recurrent pregnancy loss due to antiphospholipids syndrome.

Source: Medline
Available in fulltext from Journal of Ayub Medical College at Directory of Open Access Journals

Heparin treatment in antiphospholipid syndrome with recurrent pregnancy loss: a systematic review and meta-analysis.

Author(s) Ziakas PD, Pavlou M, Voulgarelis M

Citation: Obstetrics & Gynecology, June 2010, vol./is. 115/6(1256-62), 0029-7844;1873-233X (2010 Jun)

Publication Date: June 2010

Abstract: OBJECTIVE: To estimate the effect of combined heparin and aspirin compared with aspirin monotherapy in pregnant women with antiphospholipid syndrome and recurrent pregnancy loss. DATA SOURCES: We searched the PubMed database up to December 2009 for English-language studies using the key words "aspirin AND (heparin OR low molecular weight heparin), (antiphospholipid OR anticardiolipin OR aPL) AND pregnancy." METHODS OF STUDY SELECTION: Two hundred ninety-two studies were initially screened. Randomized controlled trials comparing the effect of heparin (unfractionated heparin or low molecular weight heparin) plus aspirin compared with aspirin alone on the live-birth rate in women with a history of at least two miscarriages and antiphospholipid antibodies were eligible. TABULATION, INTEGRATION, AND RESULTS: The pooled effect of unfractionated heparin and low molecular weight heparin was evaluable in three and two randomized controlled studies, respectively, with regard to live births, which was the major outcome. Overall, treatment effects were in favor of heparin against first-trimester losses (odd ratio [OR] 0.39, 95% confidence interval [CI] 0.24-0.65, number needed to treat 6). More specifically, unfractionated heparin displayed a significant effect (OR 0.26, 95% CI 0.14-0.48, number needed to treat 4), while the pooled effect of low molecular weight heparin was insignificant (OR 0.70, 95% CI 0.34-1.45). Combination therapy of either unfractionated heparin or low molecular weight heparin with aspirin failed to display any significant effect in the prevention of late-pregnancy losses. No significant differences were observed between treatment and control groups for any other outcomes. CONCLUSION: The combination of unfractionated heparin and aspirin confers a significant benefit in live births. However, the efficacy of low molecular weight heparin plus aspirin remains unproven, highlighting the urgent need for large controlled trials.

Source: Medline
Available in fulltext from Obstetrics & Gynecology at the ULHT Library and Knowledge Services' eJournal collection
Available in fulltext from Obstetrics and Gynecology at Free Access Content

Laboratory and clinical features of pregnant women with antiphospholipid
OBJECTIVE: To evaluate the relationship between the antiphospholipid profile and clinical characteristics of pregnant women with antiphospholipid syndrome (APS) and neonatal outcome.

METHODS: We retrospectively considered 109 treated pregnancies of 93 patients with primary APS and reviewed the medical records of their 111 infants. Neonatal outcome was assessed using the following variables: weeks of gestational age at delivery, percentiles of birth weight, Apgar score at 5 minutes, need for cardiopulmonary resuscitation in the delivery room, time in the neonatal intensive care unit, infections, and other neonatal complications. Univariate statistical analysis was performed to evaluate the relationship between APS maternal features and neonatal outcome parameters.

RESULTS: When maternal APS features and variables of infant outcome were analyzed, it was evident that lupus anticoagulant (LAC), triple antiphospholipid positivity, and history of vascular thrombosis were significantly associated with some parameters of a poor infant outcome. History of pregnancy morbidity alone was, instead, significantly correlated to the variables of favorable neonatal outcome.

CONCLUSION: There seems to be more than one kind of pregnant woman with APS. Even when treated with a second-line therapy plan, mothers with LAC and/or triple antiphospholipid positivity and/or previous thromboembolism seem to have a high probability of poor neonatal outcome, whereas those with pregnancy morbidity alone, treated with conventional drugs, seem to have a high probability of favorable outcome.

Source: Medline
Available in fulltext from Arthritis Care and Research at Wiley

Antiphospholipid syndrome in pregnancy is characterized by the presence of autoantibodies in association with recurrent early miscarriages, fetal losses or severe obstetric complications such as prematurity, intrauterine growth restriction and uteroplacental insufficiency. Several mechanisms are hypothesized to explain the pathogenesis of pregnancy failures including decidual thrombosis or placental vasculopathy and antiphospholipid antibodies (aPL) direct effect on the utero-placental unit. According to the Sapporo criteria, APS is present in patients with three or more unexplained consecutive spontaneous abortions before the 10<sup>th</sup> week of gestation, after exclusion of maternal anatomic or hormonal abnormalities, or one or more losses starting in the fetal period (from 10<sup>th</sup> week of gestation). In the last years, several studies were performed for identifying the predictors of pregnancy outcome in APS patients. The uterine artery Doppler is a useful method for the study of patients at higher risk of preeclampsia and small for gestational age infants. A multidisciplinary team (obstetricians, rheumatologists and neonatologists) is important to achieve a good obstetric outcome and to reduce the possible consequences of premature delivery.

Source: EMBASE
Available in fulltext from Current Rheumatology Reviews at Free Access Content

Successful pregnancy outcome with high dose heparin therapy in antiphospholipid antibody syndrome
Antiphospholipid antibody syndrome is an autoimmune disease characterized by thrombosis, both arterial and venous, recurrent spontaneous abortion and the persistence of positive antiphospholipid antibodies. Placental thrombosis is believed to be the cause of recurrent abortions, characteristic of the syndrome. We report a pregnant with antiphospholipid antibody syndrome patient with history of recurrent miscarriages and managed successfully with high dose heparin.

Heparin treatment in antiphospholipid syndrome with recurrent pregnancy loss.

Pregnancy outcome in women with antiphospholipid syndrome on low-dose aspirin and heparin: a retrospective study.

Recurrent pregnancy loss and antiphospholipid syndrome: an overlooked association.
Abstract: Antiphospholipid Syndrome (APS), a thrombophilic condition, is being increasingly recognised as an important cause of recurrent pregnancy loss, preeclampsia and possible infertility. It could occur as a primary condition or it may be secondary to connective tissue diseases, infections or malignancies. Though recurrent pregnancy loss is a common feature of APS, there are other presentations attributable to thrombosis. The mechanism of thrombosis is still not completely understood but there are various suggested mechanisms. Presence of anti-cardiolipin antibodies (aCL) and lupus anticoagulant (LAC) are diagnostic. Management is variously with heparin, aspirin and warfarin, although other treatment modalities are being deployed. A high index of suspicion is needed for this otherwise treatable condition. Management is ideally best done by an obstetrician and a rheumatologist.

Source: Medline

Obstetric antiphospholipid syndrome: still a challenge.

Author(s) Levy RA, Jesus GR, Jesus NR
Citation: Lupus, April 2010, vol./is. 19/4(457-9), 0961-2033;1477-0962 (2010 Apr)
Publication Date: April 2010
Abstract: Obstetric complications such as fetal death, premature delivery, preeclampsia and recurrent abortions (since chromosomal or anatomic defects have been excluded) are characteristic manifestations of antiphospholipid syndrome (APS). They can occur in patients with known APS with previous arterial or venous events in any tissue or organ, or be its first and only manifestation. Pregnancy in a patient with APS is considered high risk and the full prenatal clinical follow-up must be carried with this in mind, eliminating or minimizing concomitant thrombotic risk factors.

Source: Medline

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Obstetric antiphospholipid syndrome: current uncertainties should guide our way.

Author(s) Branch DW, Silver RM, Porter TF
Citation: Lupus, April 2010, vol./is. 19/4(446-52), 0961-2033;1477-0962 (2010 Apr)
Publication Date: April 2010
Abstract: The subject of obstetric antiphospholipid syndrome (APS) has been reviewed dozens of times, and there is little doubt that the international APS community has done well in bringing APS to the attention of clinicians around the world. However, the evolution of clinical practice, at least in the US, also has convinced us that our field would benefit from further clinical study. For example, the number of women diagnosed with 'APS', but who do not meet the revised Sapporo criteria, seems to have increased. It is now common practice for women with recurrent miscarriage or prior fetal death to be treated with heparin, even in the presence of indeterminate or low titer antiphospholipid antibody (aPL) levels and even after only one positive test. In part, this common practice derives from confusion on the part of many clinicians and patients regarding the diagnosis of APS as well as the clinical and laboratory criteria for the syndrome. In part, this derives from the common practice of so-called 'empiric treatment' in US reproductive medicine, often driven as much by patients as by clinicians. This brief commentary focuses on areas of uncertainty that we see as deserving of new or renewed study for the sake of improving our understanding of APS and best patient care.

Source: Medline

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Predictors of pregnancy outcome in antiphospholipid syndrome: a review.

**Author(s)** De Carolis S, Botta A, Santucci S, Garofalo S, Martino C, Perrelli A, Salvi S, Ferrazzani S, Caforio L, Scambia G

**Citation:** Clinical Reviews in Allergy & Immunology, April 2010, vol./is. 38/2-3(116-24), 1080-0549;1559-0267 (2010 Apr)

**Publication Date:** April 2010

**Abstract:** In pregnant women, antiphospholipid syndrome (APS) is associated with an increased risk of preeclampsia, fetal intrauterine growth restriction, and other complications related to uteroplacental insufficiency. In the last two decades, several studies were performed to identify the predictive role of some parameters in relation to obstetric outcome in APS patients. Among these, the uterine velocimetry Doppler is the most studied. It provides a non-invasive method for the study of uteroplacental blood flow, being able to detect a condition of impaired placental perfusion, due to the presence of circulating antiphospholipid antibodies (aPL). To date, the uterine artery Doppler velocimetry resulted to be a useful tool to identify APS pregnancies at higher risk of adverse pregnancy outcome. False-positive IgM for toxoplasmosis, others, rubella, cytomegalovirus, herpes viruses (TORCH) complex is associated to a worse pregnancy outcome because it reflects a dysregulation of the immune system which may amplify placental autoimmune damage. Moreover low levels of complement components are related to an increased incidence of obstetrical complications, suggesting that placental deposition of immune complexes and activation of complement cascade may contribute to placental failure APS related. The abnormal uterine Doppler velocimetry, false-positive TORCH IgM and low levels of complement components can be considered prognostic indexes of poor pregnancy outcome in APS.

**Source:** Medline

Available in fulltext from Clinical Reviews in Allergy & Immunology at EBSCOhost

Available in fulltext at Clinical Reviews in Allergy and Immunology; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

Psychiatric manifestations preceding fetal death in antiphospholipid syndrome.

**Author(s)** Spyropoulou AC, Tsartsara EI, Angelopoulos A, Zervas IM

**Citation:** General Hospital Psychiatry, March 2010, vol./is. 32/2(225-7), 0163-8343;1873-7714 (2010 Mar-Apr)

**Publication Date:** March 2010

**Abstract:** OBJECTIVES: Antiphospholipid syndrome (APS) is a systemic autoimmune disorder characterized by a combination of thrombotic events, pregnancy morbidity and antiphospholipid antibodies. The objective of this report is to sensitize mental health professionals to the psychiatric manifestations of APS during pregnancy. To our knowledge, this is the first report on this matter.CASE SUMMARY: A 34-year-old pregnant woman, with no previous medical, obstetrical or psychiatric history, at the 18th week of pregnancy, acutely developed depressed mood, feelings of anxiety and insomnia with a strong premonition that “the fetus would die.” Actual fetal loss ensued a few days later. During induced labor, the patient had an agitated delirium. Symptoms of depression, slowed mentation and apprehension persisted for at least 2 months after fetal demise and required pharmacological treatment. APS diagnosis was established based on clinical events and persistent findings of antiphospholipid antibodies as well as multiple high-density foci in the subcortical white matter of the frontal lobes in brain magnetic resonance imaging.CONCLUSIONS: Psychiatric symptomatology, as well as a premonitory sense of upcoming loss of pregnancy, preceded actual fetal loss and APS diagnosis in the presented case, indicating that psychiatric
Symptoms may present during pregnancy, perhaps as an early sign.

**Statins for the treatment of obstetric complications in antiphospholipid syndrome?.**
**Author(s)** Lockshin MD, Pierangeli SS
**Citation:** Journal of Reproductive Immunology, March 2010, vol./is. 84/2(206; author reply 206-7), 0165-0378;1872-7603 (2010 Mar)
**Publication Date:** March 2010
**Source:** Medline

**Pregnancy outcome in different clinical phenotypes of antiphospholipid syndrome.**
**Author(s)** Bramham K, Hunt BJ, Germain S, Calatayud I, Khamashta M, Bewley S, Nelson-Piercy C
**Citation:** Lupus, January 2010, vol./is. 19/1(58-64), 0961-2033;1477-0962 (2010 Jan)
**Publication Date:** January 2010
**Abstract:** Women with antiphospholipid syndrome (APS) may have diverse pregnancy outcomes. The objective of this study was to evaluate pregnancy outcome in women with APS according to their clinical phenotype, i.e. thrombotic and obstetric APS. Eighty-three pregnancies in 67 women with APS were included in the study, including 21 with recurrent miscarriage (Group 1), 21 with late fetal loss or early delivery due to placental dysfunction (Group 2) and 41 with thrombotic APS (Group 3). Group 3 had higher rates of preterm delivery (26.8% versus 4.7%, \(p = 0.05\)) than Group 1 and more small for gestational age (SGA) babies than Group 2 (39.5% versus 4.8%, \(p = 0.003\)). Group 2 had significantly longer gestations compared with their pretreatment pregnancies (38.4 [28.4-41.4] versus 24.0 [18-35] weeks, \(p < 0.0001\)) and 100% live birth rate after treatment with aspirin and low-molecular-weight heparin (LMWH). In conclusion, women with thrombotic APS (Group 3) have higher rates of pregnancy complications than those with obstetric APS (Groups 1 and 2). Treatment with aspirin and LMWH is associated with improved outcomes for women with previous late fetal loss or early delivery due to placental dysfunction (Group 2).
**Source:** Medline

Available in fulltext at Lupus; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.
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**Efficacy and safety of two doses of low molecular weight heparin (enoxaparin) in pregnant women with a history of recurrent abortion secondary to antiphospholipid syndrome.**
**Author(s)** Fouda UM, Sayed AM, Ramadan DI, Fouda IM
**Citation:** Journal of Obstetrics & Gynaecology, 2010, vol./is. 30/8(842-6), 0144-3615;1364-6893 (2010)
**Publication Date:** 2010
**Abstract:** The aim of this randomised controlled trial was to compare efficacy and safety of two doses of low molecular weight heparin (enoxaparin) in pregnant women with a history of recurrent abortion secondary to antiphospholipid syndrome. A total of 60 women with a minimum of three consecutive abortions before 10 weeks' gestation and positive lupus anticoagulant and/or anticardiolipin antibodies on at least two occasions at least 12 weeks apart were randomised into two groups based on computer generated randomisation list concealed in opaque envelopes. Pregnant women were treated with enoxaparin 40 mg plus low dose aspirin (LDA) \((n = 30)\) or enoxaparin 20 mg plus LDA \((n = 30)\). The live birth rate was 76.67% in enoxaparin 40 mg group and 70% in enoxaparin 20 mg group \((p \text{ value} = 0.559)\). There were no significant differences between both groups with
respect to neonatal outcome, obstetric and maternal complications during pregnancy or puerperium. No cases of severe bleeding, thrombocytopenia or spontaneous fractures were reported in both groups.

**Source:** Medline

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*Obstetric antiphospholipid syndrome: A recent classification for an old defined disorder*

S D'Ippolito, PL Meroni, T Koike, M Veglia… - Autoimmunity …, 2014 - Elsevier

**Abstract**

*Obstetric antiphospholipid syndrome* (APS) is now being recognized as a distinct entity from vascular APS. *Pregnancy* morbidity includes ≥3 consecutive and spontaneous early miscarriages before 10 weeks of gestation; at least one unexplained fetal death after …