RESEARCH PAPER

Secondary Aps (Anti-Phospholipid Syndrome) The Clotting Culprit Behind Autoimmune Chaos

Dr. Avie Saxena[1], Dr. Sanket Damodhar Kale[1], Dr. Desai Jay Manharlal[1], Dr. Naman Singh[1*], Dr. Ashok Kumar Dash[2]

[1] Junior Resident, Department Of General Medicine, Sharda University, Greater Noida, Uttar Pradesh, India.

[2] Professor, Department Of General Medicine, Sharda University, Greater Noida, Uttar Pradesh, India.

Corresponding Author: Dr. Naman Singh, Junior Resident, Department Of General Medicine, Sharda University, Greater Noida, Uttar Pradesh, India. Email: drnaman22singh@gmail.com

Received: *20th Feb, 2026;* ***Revised:*** *4th Mar, 2026;* ***Accepted:*** *25th Mar, 2026;* ***Available Online:*** *10th Apr, 2026*

Abstract

Problem: Secondary antiphospholipid syndrome (aps) is a serious autoimmune condition occurring in association with diseases like systemic lupus erythematosus, characterized by a persistent hypercoagulable state. It leads to recurrent arterial and venous thrombosis, including deep vein thrombosis, pulmonary embolism, and stroke, often at a young age. A major clinical problem is obstetric morbidity, with recurrent miscarriages, fetal loss, and placental insufficiency. Despite thrombosis, patients may paradoxically have thrombocytopenia, complicating management. Multisystem involvement is common, affecting the brain, heart, skin, and kidneys. Cardiac manifestations such as libman–sacks endocarditis can occur. Neurological complications include seizures and cognitive dysfunction. The coexistence with underlying autoimmune disease increases inflammation and worsens prognosis. In severe cases, catastrophic aps can develop, leading to rapid multiorgan failure. Overall, secondary aps represents a complex interplay of autoimmunity and thrombosis, posing significant diagnostic and therapeutic challenges.

Approach: We describe clinicopathological case of a 34-year-old female presented with generalized weakness and polyarthralgia since 1 month, insidious in onset and gradually progressive, no photosensitivity, no oral ulcers, no rashes, no alopecia, no thrombotic events, and no obstetric history (recurrent abortions). Joint involvement was symmetric, no skin changes (malar rash, livedo reticularis), no lymphadenopathy, and no signs of systemic involvement. Initial investigations were done include cbc (for anemia, thrombocytopenia), esr/crp, renal and liver function tests, and urine routine. Autoimmune workup done include ana, anti-dsdna, complement levels, and antiphospholipid antibodies (lupus anticoagulant, anticardiolipin, anti-β2 glycoprotein i). Evaluated for thrombosis with doppler imaging and mri brain. Assessed organ involvement such as renal (proteinuria) and cns features. Management depended on cause, including immunosuppressants for sle and anticoagulation as aps was confirmed. Early diagnosis is crucial to prevent complications like thrombosis and organ damage.

Findings: Laboratory findings in this case demonstrated significant hematological and immunological abnormalities consistent with secondary antiphospholipid syndrome in systemic lupus erythematosus. The complete blood count revealed anemia with hemoglobin of 8 g/dl, leukopenia with a total leukocyte count of 3.57 $\times 10^3/\mu l$, and borderline thrombocytopenia (143 $\times 10^3/\mu l$). Coagulation studies showed a normal pt/inr but prolonged ptt-la (48.1 sec) and drvvt (66.2 sec), which did not correct on mixing, confirming the presence of lupus anticoagulant. Autoimmune profiling revealed strongly positive ana (1:80, homogeneous pattern) along with strongly positive anti-dsdna, nucleosome, and histone antibodies, while smd1, u1-snrnp, and ku antibodies were weakly positive. Complement levels showed reduced c3 (0.84 g/l), indicating active immune complex-mediated disease, while c4 was within near-normal range. These findings collectively support active sle with secondary aps, characterized by cytopenias, autoantibody positivity, hypocomplementemia, and laboratory evidence of lupus anticoagulant contributing to a prothrombotic state.

Conclusion: The case highlights secondary antiphospholipid syndrome occurring in a patient with newly diagnosed systemic lupus erythematosus presenting with thrombotic complications. The presence of lupus anticoagulant along with clinical features emphasizes the importance of early screening for antiphospholipid antibodies in young patients with stroke. Timely diagnosis is crucial as secondary aps significantly increases the risk of recurrent arterial and venous thrombosis. Recognition of associated immunological abnormalities helps guide appropriate management

including anticoagulation and immunosuppressive therapy. Regular follow-up with repeat antibody testing is necessary to confirm persistence and guide long-term treatment. Early intervention can substantially reduce morbidity and prevent recurrence in such patients.

Keywords: Na

How To Cite This Article: Saxena A, Kale Sd, Manharlal Dj, Singh N, Dash Ak. Secondary Aps (Anti-Phospholipid Syndrome) The Clotting Culprit Behind Autoimmune Chaos. Int J Drug Deliv Technol. 2026;16(29s):17-21. Doi: 10.25258/ijddt.16.29s.4

Introduction

Secondary antiphospholipid syndrome (APS) is an autoimmune prothrombotic disorder that occurs in association with underlying diseases, most commonly Systemic Lupus Erythematosus. It is characterized by the presence of antiphospholipid antibodies such as lupus anticoagulant, anticardiolipin antibodies, and anti-β2 glycoprotein I antibodies, which promote a hypercoagulable state. Unlike primary APS, secondary APS develops in the setting of established autoimmune pathology, leading to a more complex clinical presentation. The condition predominantly affects young to middle-aged females, reflecting the epidemiology of SLE.

Pathophysiologically, these antibodies interact with phospholipid-binding proteins, causing endothelial dysfunction, platelet activation, and complement-mediated injury. This cascade results in increased risk of both arterial and venous thrombosis, including deep vein thrombosis, pulmonary embolism, and ischemic stroke. Recurrent pregnancy loss and other obstetric complications are also hallmark features. Secondary APS may present with hematological abnormalities such as thrombocytopenia and hemolytic anemia, further complicating diagnosis. Neurological manifestations, particularly stroke in young individuals, are a significant concern.

Diagnosis requires both clinical evidence of thrombosis or pregnancy morbidity and persistent laboratory positivity of antiphospholipid antibodies on repeat testing after 12 weeks. In patients with SLE, approximately 30–40% may develop secondary APS, making routine screening essential. Laboratory findings often reveal prolonged clotting times such as activated partial thromboplastin time that do not correct on mixing studies. Complement consumption and high titers of autoantibodies reflect active underlying autoimmune disease. The condition may be triggered or exacerbated by infections, medications, or systemic inflammation. Early recognition is critical because untreated APS can lead to life-threatening complications and recurrent thrombotic events. Management involves long-term anticoagulation along with treatment of the underlying autoimmune disorder. Risk stratification is important to determine intensity and duration of therapy. Multidisciplinary care is often required for optimal outcomes. Overall, secondary APS represents a significant overlap between autoimmunity and thrombosis, requiring a high index of clinical suspicion for timely diagnosis and intervention.

Case presentation

A 34-year-old female presented with complaints of generalized weakness and polyarthralgia for a duration of one month, insidious in onset and gradually progressive. The joint pains were bilateral, symmetrical, and involved small joints of the hands and wrists, without any significant swelling or deformity.

There was no history of fever, rash, oral ulcers, photosensitivity, alopecia, or weight loss. She denied any prior history of thrombotic events such as deep vein thrombosis, pulmonary embolism, or stroke. There was no history of recurrent abortions, intrauterine fetal demise, or adverse pregnancy outcomes. She had no known comorbidities such as hypertension, diabetes mellitus, or thyroid disorders. There was no history of long-term medication use, including oral contraceptive pills or hormonal therapy. She also denied any recent infections, trauma, or immobilization. There was no family history of autoimmune or thrombotic disorders.

On general examination, the patient appeared pale but was afebrile and hemodynamically stable. No lymphadenopathy or organomegaly was noted. Systemic examination revealed mild tenderness in multiple small joints without signs of active synovitis. Neurological examination was initially unremarkable with no focal deficits. However, during evaluation, she developed subtle neurological symptoms prompting further assessment.

Laboratory investigations revealed anemia, leukopenia, and borderline thrombocytopenia. Autoimmune workup showed positive antinuclear antibodies and strongly positive anti-dsDNA antibodies, suggestive of underlying autoimmune pathology. Complement levels

were reduced, indicating active disease. Coagulation profile demonstrated prolonged clotting parameters with evidence of lupus anticoagulant positivity. Despite absence of prior thrombotic history, imaging with MRI brain revealed acute tiny infarcts in bilateral corona radiata and occipital regions. These findings confirmed an acute ischemic event in the setting of a hypercoagulable state. Based on clinical, laboratory, and radiological findings, a diagnosis of secondary antiphospholipid syndrome associated with systemic lupus erythematosus was established. The patient was initiated on anticoagulation therapy along with immunosuppressive management. She showed clinical improvement with stabilization of symptoms. This case underscores the importance of high clinical suspicion even in patients without classical thrombotic or obstetric history.

Investigations

The investigations in this 34-year-old female revealed a combination of hematological, immunological, and radiological abnormalities suggestive of secondary antiphospholipid syndrome associated with Systemic Lupus Erythematosus. Complete blood count showed anemia (Hb 8 g/dL), leukopenia (TLC 3.57 $\times 10^3/\mu L$), and borderline thrombocytopenia, indicating underlying autoimmune cytopenias. Coagulation profile demonstrated normal PT/INR but prolonged PTT-LA and DRVVT, which failed to correct on mixing studies, confirming the presence of lupus anticoagulant and a prothrombotic state. Autoimmune panel revealed strongly positive ANA (1:80, homogeneous pattern) along with high titers of anti-dsDNA, nucleosome, and histone antibodies, while SmD1, U1-snRNP, and Ku antibodies were weakly positive, supporting the diagnosis of SLE. Complement levels showed reduced C3 with relatively preserved C4, reflecting active immune complex-mediated disease. Anticardiolipin and anti-β2 glycoprotein I antibodies were negative, suggesting isolated lupus anticoagulant positivity, which still carries significant thrombotic risk. Neuroimaging with MRI brain demonstrated acute tiny infarcts in bilateral corona radiata and occipital regions, confirming arterial thrombotic involvement. These findings collectively establish the diagnosis of secondary APS with active SLE.

Summary of Investigations:

Investigation	Parameter	Result	Interpretation
Complete Blood Count	Hemoglobin	8 g/dL	Anemia
	TLC	3.57 $\times 10^3/\mu L$	Leukopenia
	Platelets	143 $\times 10^3/\mu L$	Borderline thrombocytopenia
Coagulation Profile	PT/INR	13 sec / 1.13	Normal
	PTT-LA	48.1 sec	Prolonged
	DRVVT	66.2 sec	Prolonged
	DRVVT Mixing	Not corrected	Lupus anticoagulant positive
Autoimmune Profile	- ANA	Positive (1:80, homogeneous)	SLE marker
	Anti-dsDNA	Strong positive	Disease activity
	Nucleosome/Histone	Strong positive	Autoimmune activity
	SmD1, U1-snRNP, Ku	Weak positive	Supportive
	Complement Levels		
	C3	Low	Active disease
	C4	Near normal	Partial consumption
	Imaging MRI Brain	Tiny infarcts	Thrombotic event

Diagnostic Criteria

1. Sapporo Criteria (Original Criteria) -First internationally accepted classification criteria for APS. Included clinical criteria (thrombosis, pregnancy morbidity) and laboratory criteria (lupus anticoagulant and anticardiolipin antibodies). Limitation: Did not include anti-β2 glycoprotein I antibodies

2. Revised Sapporo Criteria / Sydney Criteria - Most widely used and currently accepted criteria. Added anti-β2 glycoprotein I antibodies to laboratory criteria. Mandated persistent positivity ≥12 weeks apart. Requires ≥1 clinical + ≥1 laboratory criterion for diagnosis

3. ACR/EULAR APS Classification Criteria -Latest updated classification criteria by the American College of Rheumatology and European League Against Rheumatism. Uses a weighted scoring system instead of simple presence/absence.Incorporates newer understanding of antibody profiles and clinical manifestations.Improves specificity for research classification, especially in complex cases like secondary APS in Systemic Lupus Erythematosus.

Discussion

The present case illustrates the complex interplay between autoimmunity and thrombosis in secondary antiphospholipid syndrome associated with Systemic Lupus Erythematosus. The patient demonstrated classical immunological features of SLE, including positive ANA and strongly positive anti-dsDNA antibodies, along with hypocomplementemia, indicating active disease. Hematological abnormalities such as anemia, leukopenia, and borderline thrombocytopenia further supported the diagnosis of SLE. A key finding in this case was the presence of lupus anticoagulant, evidenced by prolonged DRVVT and PTT-LA that did not correct on mixing studies, confirming a prothrombotic state. Interestingly, other antiphospholipid antibodies such as anticardiolipin and anti-β2 glycoprotein I were negative, highlighting that isolated lupus anticoagulant positivity can still confer significant thrombotic risk. Secondary APS is known to occur in approximately 30–40% of patients with SLE, emphasizing the importance of routine screening in such individuals. The occurrence of ischemic stroke in a young female without traditional risk factors underscores the clinical significance of APS-related arterial thrombosis. MRI findings of acute infarcts in bilateral corona radiata and occipital regions further corroborated the diagnosis of thrombotic involvement.

Pathophysiologically, antiphospholipid antibodies contribute to endothelial dysfunction, platelet activation, and complement-mediated injury, leading to a hypercoagulable state.This explains the paradoxical prolongation of coagulation tests despite increased thrombotic tendency. The absence of prior thrombotic or obstetric history in this patient highlights that APS can present de novo with life-threatening complications. Early recognition is therefore crucial to prevent recurrence and reduce morbidity. Management in such cases involves long-term anticoagulation along with immunosuppressive therapy tailored to SLE disease activity. Additionally, repeat testing after 12 weeks is necessary to confirm persistent antiphospholipid antibody positivity as per classification criteria. This case reinforces the need for high clinical suspicion in young stroke patients, especially females, and highlights the importance of integrating clinical, laboratory, and radiological findings for timely diagnosis and management.

Comparison with previously reported cases

Compared to previously reported cases, this patient shares several classical features of secondary antiphospholipid syndrome associated with Systemic Lupus Erythematosus, particularly the predominance in young females and the presence of autoimmune cytopenias and positive serology. Similar to earlier studies, the occurrence of arterial thrombosis in the form of ischemic stroke without conventional cardiovascular risk factors is a well-recognized presentation in APS.

However, many previously reported cases often describe a history of recurrent pregnancy loss or prior thrombotic episodes, which were notably absent in this patient, making the presentation atypical. Another distinguishing feature is the isolated positivity of lupus anticoagulant, whereas earlier literature frequently reports triple positivity (lupus anticoagulant, anticardiolipin, and anti-β2 glycoprotein I antibodies) associated with higher thrombotic risk. Despite this, the current case reinforces evidence that even single antibody positivity, particularly lupus anticoagulant, carries significant clinical implications. In comparison to other reports, the early manifestation of stroke as the initial presentation of SLE with secondary APS is relatively uncommon but increasingly recognized. Additionally, the presence of strong anti-dsDNA positivity and low complement levels aligns with previously documented cases of active SLE-associated APS.

Most reported cases emphasize delayed diagnosis due to nonspecific symptoms, whereas in this case, prompt laboratory and imaging evaluation facilitated early recognition. The radiological finding of multiple small infarcts is consistent with prior studies highlighting microvascular involvement in APS. Therapeutically, the approach of combining anticoagulation with immunosuppression is in line with established management strategies described in the literature. Overall, this case both aligns with and expands upon existing reports by demonstrating that secondary APS

can present acutely without prior warning signs, underscoring the need for vigilance in similar clinical scenarios

Management

We Managed this case of secondary antiphospholipid syndrome (APS) associated with Systemic Lupus Erythematosus with a combined approach targeting both the prothrombotic state and the underlying autoimmune activity. The cornerstone of treatment was anticoagulation, especially in patients presenting with thrombotic events such as ischemic stroke. Initially patient was started with low molecular weight heparin (LMWH) or unfractionated heparin, followed by long-term oral anticoagulation with warfarin, maintaining an INR target of 2–3 for venous thrombosis and sometimes higher (2.5–3.5) in arterial events or recurrent thrombosis. Direct oral anticoagulants are generally not preferred, particularly in high-risk patients with lupus anticoagulant positivity, due to higher recurrence rates.

In addition to anticoagulation, management of the underlying SLE was crucial. we included corticosteroids for disease control during active phases, along with disease-modifying agents such as hydroxychloroquine, which has both immunomodulatory and antithrombotic benefits. Hydroxychloroquine is particularly important as it reduces thrombosis risk and is recommended in all SLE patients unless contraindicated.

Supportive management was done as correction of hematological abnormalities such as anemia and thrombocytopenia, along with monitoring of complement levels and antibody titers. Patients was advised to avoid additional thrombotic risk factors such as smoking, oral contraceptive pills, and prolonged immobilization.

Regular follow-up was done to monitor INR, assess for recurrent thrombosis, and evaluate disease activity. Repeat antiphospholipid antibody testing after 12 weeks was adviced to confirm persistent positivity as per classification criteria. Early diagnosis and strict adherence to long-term anticoagulation significantly reduce morbidity and prevent recurrence in secondary APS.

Conclusion

In conclusion, secondary antiphospholipid syndrome represents a serious autoimmune prothrombotic condition commonly associated with Systemic Lupus Erythematosus. This case highlights its potential to present with acute thrombotic events such as ischemic stroke even in young patients without prior risk factors. The presence of lupus anticoagulant along with supportive clinical and laboratory findings plays a crucial role in establishing the diagnosis. A high index of suspicion should be maintained in young females presenting with thrombotic events. Timely intervention can significantly reduce morbidity and improve overall outcomes in secondary APS.

References

1. Petri M, Orbai AM, Alarcón GS, et al. Derivation and validation of the Systemic Lupus International Collaborating Clinics classification criteria for systemic lupus erythematosus. Arthritis Rheum. 2012;64(8):2677–2686. doi:10.1002/art.34473.

2. Aringer M, Costenbader K, Daikh D, et al. 2019 European League Against Rheumatism/American College of Rheumatology classification criteria for systemic lupus erythematosus. Ann Rheum Dis. 2019;78(9):1151–1159. doi:10.1136/annrheumdis-2018-214819.

3. Miyakis S, Lockshin MD, Atsumi T, et al. International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome (APS). J Thromb Haemost. 2006;4(2):295–306. doi:10.1111/j.1538-7836.2006.01753.x.

4. Ruiz-Irastorza G, Crowther M, Branch W, Khamashta MA. Antiphospholipid syndrome. Lancet. 2010;376(9751):1498–1509. doi:10.1016/S0140-6736(10)60709-