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Unprovoked deep vein thrombosis and pulmonary embolism as the initial presentation of systemic lupus erythematosus in a young male: A rare case of Class III Lupus nephritis

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Abstract
Systemic lupus erythematosus (SLE) is a multisystem autoimmune disorder with diverse clinical manifestations. Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), is a recognized complication of SLE but rarely serves as the initial presenting feature, particularly in males. We report a case of a 21-year-old previously healthy male who presented with intermittent fever, right lower limb swelling, and pain. Clinical evaluation revealed tachycardia and high-grade fever. Laboratory investigations showed proteinuria, hematuria, elevated D-dimer, and active urine sediments. Doppler ultrasonography identified extensive thrombosis in the right iliac and femoral veins, and computed tomography pulmonary angiography revealed acute PE with infarcts. Autoimmune screening was notable for strong ANA positivity and positive antiphospholipid antibodies. Renal biopsy demonstrated focal endocapillary proliferative glomerulonephritis with a 'full house' immunofluorescence pattern, consistent with ISN/RPS Class III lupus nephritis. The patient was treated with catheter-directed thrombolysis, anticoagulation, and immunosuppressive therapy using the Euro-Lupus protocol. This case represents an unusual presentation of SLE in a male patient, where thromboembolism was the first clinical manifestation without classic lupus features. Such presentations may lead to delayed diagnosis if autoimmune causes are not considered in the differential for unprovoked VTE. Clinicians should maintain a high index of suspicion for SLE in young patients with unexplained VTE. Early diagnosis and multidisciplinary management are crucial for improving outcomes and preventing disease progression.

Keywords: Systemic lupus erythematosus, lupus nephritis, venous thromboembolism, pulmonary embolism, deep vein thrombosis, young male, atypical presentation

Introduction
Systemic Lupus Erythematosus (SLE) is a complex autoimmune disorder characterized by the production of pathogenic autoantibodies and immune complex deposition that can affect multiple organs, including the skin, joints, kidneys, heart, lungs, and central nervous system [1]. Although SLE predominantly affects women of reproductive age, men with SLE often exhibit more severe disease and a higher likelihood of renal and vascular involvement [2, 3].
Lupus nephritis is one of the most serious complications of SLE, occurring in up to 60% of patients during the disease course, and remains a major contributor to morbidity and long-term renal failure [4]. Histologically, lupus nephritis is classified according to the ISN/RPS 2003 classification system, which guides management and prognostication [5]. Class III lupus nephritis, or focal proliferative nephritis, represents an intermediate form of disease requiring immunosuppressive therapy to prevent progression.
Venous Thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism, is a recognized but less common initial manifestation of SLE. It is more frequently observed in patients with longstanding disease or those who test positive for antiphospholipid antibodies (APLA) [6, 7]. The pathogenesis of thrombosis in SLE is multifactorial and includes endothelial dysfunction, complement activation, and presence of prothrombotic autoantibodies [8].
Notably, VTE as the first presentation of SLE is rare, especially in male patients without classic symptoms such as photosensitivity, arthralgia, or mucocutaneous lesions.

In such atypical presentations, SLE may be overlooked unless a thorough autoimmune workup is performed [9]. Therefore, awareness of this rare phenotype is critical for early diagnosis and treatment to reduce complications and improve outcomes.

We report a unique case of a young male with unprovoked extensive DVT and PE as the initial presentation of SLE with biopsy-confirmed Class III lupus nephritis, emphasizing the need for high clinical suspicion and broad differential diagnosis in young patients with unexplained thromboembolism.

Case Presentation

A 21-year-old previously healthy male presented to our outpatient department with complaints of intermittent fever and cough for the past one month, along with right lower limb pain and swelling for 10 days. He denied any history of joint pain, photosensitivity, alopecia, oral ulcers, or cutaneous lesions suggestive of connective tissue disease. There was no history of recent travel, immobilization, trauma, surgery, or family history of thrombotic events or autoimmune diseases.

On initial evaluation, his vital signs were notable for a heart rate of 124 beats per minute, blood pressure of 120/70 mmHg, respiratory rate of 18/min, temperature of 103.2°F, and oxygen saturation of 100%. Local examination revealed swelling and tenderness over the right lower limb without signs of cellulitis or compartment syndrome.

Laboratory investigations revealed active urinary sediment with plenty of red blood cells and 3+ proteinuria on dipstick testing. Serum creatinine was 1.1 mg/dL. D-dimer levels were markedly elevated at 4868 ng/mL. Renal ultrasonography demonstrated bilaterally normal-sized kidneys. Doppler ultrasound of the venous system of right lower limb showed a non-compressible lumen with hypoechoic thrombus in the right common iliac, external iliac, common femoral, popliteal, and tibial veins (Figure 1 and Figure 2).

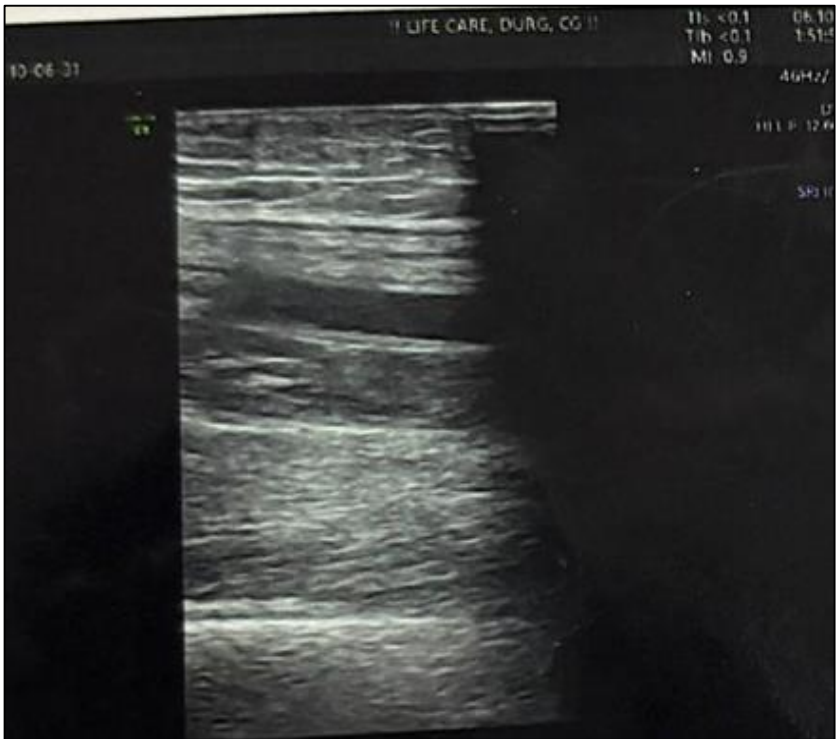

Fig 1: Colour Doppler ultrasound of venous system of right lower limb demonstrating non-compressible lumen with hypoechoic thrombus

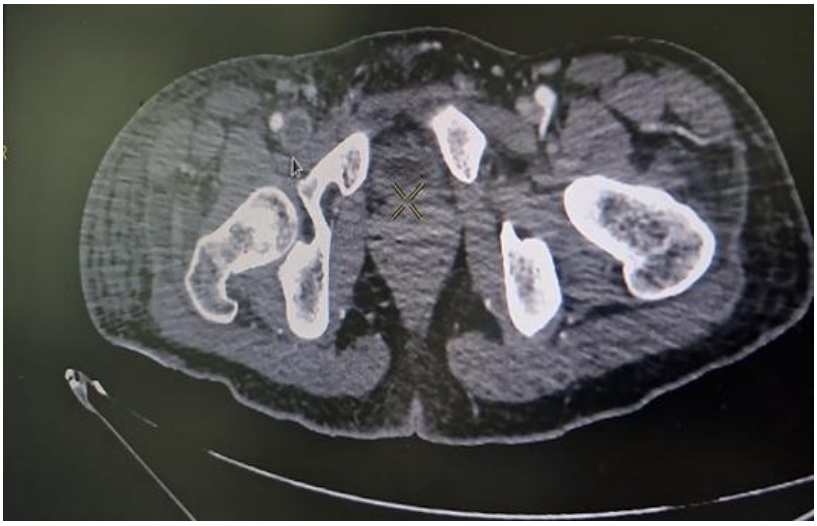

Fig 2: Computed tomography venogram showing right lower femoral vein thrombosis

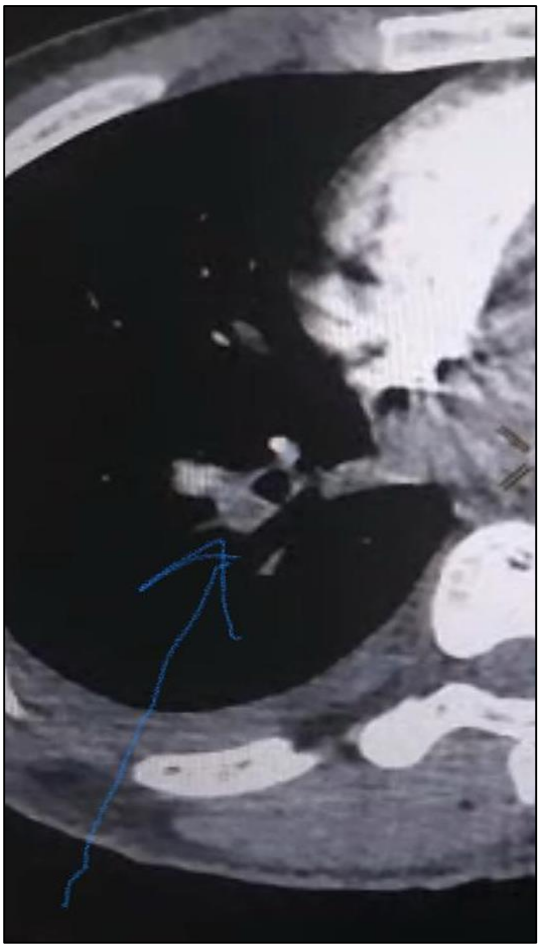

Fig 3a: Computed tomography pulmonary angiography showing thrombus in pulmonary artery

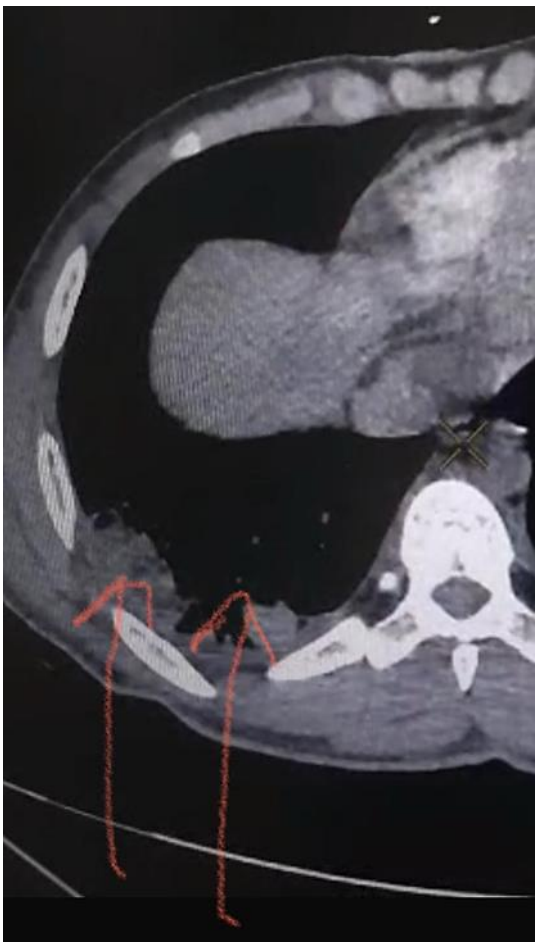

Fig 3b: Computed tomography pulmonary angiography showing pulmonary infarcts

Computed tomography pulmonary angiography (CTPA) revealed acute pulmonary thromboembolism (Figure 3a) with associated patchy consolidation, likely representing pulmonary infarction (Figure 3b).

A comprehensive autoimmune panel was initiated in light of concurrent deep vein thrombosis and pulmonary embolism in a young male without apparent risk factors. This revealed a strongly positive antinuclear antibody (ANA, 4+), with additional positivity for anti-histone (1+), anti-centromere protein B (CENP-B, 1+), and APLA. Complement levels (C3 and C4) were within normal limits. Thrombophilia workup, including serum homocysteine, protein C, protein S, antithrombin III levels, and factor V Leiden mutation, was unremarkable.

The patient underwent catheter-directed thrombolysis with alteplase (0.8 mg/hour), followed by intravenous unfractionated heparin (500 units/hour) and subsequently transitioned to oral apixaban (5 mg twice daily). Interventional radiology-assisted procedures including visceral venogram, venoplasty, and thrombectomy were performed to restore venous patency.

Following hemodynamic stabilization, a percutaneous kidney biopsy was performed. Histopathology showed six glomeruli, none globally sclerosed, with mild mesangial hypercellularity and segmental endocapillary hypercellularity with intracapillary neutrophilic infiltration in two glomeruli, consistent with focal proliferative glomerulonephritis (Figure 4). The interstitial compartment showed < 10% interstitial fibrosis and tubular atrophy (IFTA), with features of acute tubular injury. No vascular abnormalities were noted.

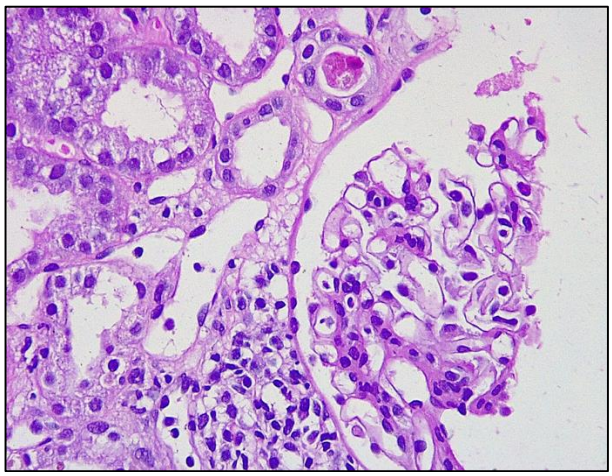

Fig 4: Light microscopy of kidney biopsy showing focal endocapillary hypercellularity with intracapillary neutrophilic infiltration

Direct immunofluorescence revealed a ‘full-house pattern’ with strong glomerular staining for IgG (3+), kappa (3+), and lambda (3+), with trace IgA and mild positivity for C3 (1+/2+) and C1q (1+/2+), confirming immune complex-mediated proliferative glomerulonephritis. These findings were consistent with ISN/RPS Class III lupus nephritis (focal endocapillary proliferative lupus nephritis).

The patient was initiated on the Euro-Lupus protocol, comprising intravenous methylprednisolone (1 g daily for 3 days), followed by oral prednisone 1 mg/kg/day. Injection cyclophosphamide (500 mg IV) was administered every two weeks, with a planned total of six doses. He was subsequently transitioned to maintenance immunosuppression with mycophenolate mofetil. Prophylactic antimicrobial therapy with acyclovir, fluconazole, and trimethoprim-sulfamethoxazole was also instituted.

Discussion

Systemic lupus erythematosus is a chronic, multisystem autoimmune disease with heterogeneous clinical manifestations, commonly affecting females of childbearing age. The typical clinical features include constitutional symptoms, arthritis, mucocutaneous manifestations, serositis, and renal involvement [1]. However, thromboembolic events, though well-recognized in SLE, are more commonly observed in patients with established disease, particularly in the context of antiphospholipid antibody syndrome (APS) [6]. Our case is notable as it presents a rare scenario of a young male with unprovoked VTE as the initial manifestation of undiagnosed SLE and lupus nephritis.

Venous thromboembolism is a significant cause of morbidity in patients with SLE. The prevalence of VTE in SLE ranges from 4% to 10%, with an increased incidence particularly in the presence of APLA [6, 7]. These autoantibodies, particularly lupus anticoagulant, anticardiolipin, and anti-β2-glycoprotein I antibodies, are prothrombotic and can cause both venous and arterial thromboses [8]. In our patient, positivity for APLA provided a plausible mechanistic explanation for the extensive thrombotic events observed.

What makes this case unusual is the absence of any preceding classical SLE manifestations. While lupus nephritis is a common and serious manifestation of SLE, it typically presents after other systemic symptoms [3]. Our patient presented with pulmonary embolism and DVT in the absence of overt systemic features, highlighting the protean nature of SLE. A similar pattern has been described in rare case reports, where VTE was the presenting feature leading to subsequent diagnosis of SLE [9].

Lupus in males is rare and often associated with more severe disease and higher rates of renal involvement [2, 10]. The gender disparity in SLE is well-documented, with a female-to-male ratio of approximately 9:1 [11]. Despite being uncommon, male patients often show a higher frequency of late-onset diagnosis, more frequent nephritis, and worse long-term outcomes [4]. Our case aligns with these observations, as the patient exhibited class III lupus nephritis confirmed on renal biopsy with a full-house immunofluorescence pattern, characteristic of immune complex–mediated glomerulonephritis in SLE [5].

This case underscores the importance of considering autoimmune diseases in the differential diagnosis of unprovoked VTE in young individuals. While malignancy and inherited thrombophilias are often investigated, autoimmune screening is frequently overlooked unless accompanied by systemic symptoms. Early identification and treatment of underlying SLE can significantly alter prognosis and reduce the risk of recurrent thrombotic episodes [12].

The patient was treated successfully with the Euro-Lupus protocol, which uses low-dose cyclophosphamide for induction of remission in lupus nephritis and has been shown to be as effective as high-dose regimens with fewer adverse effects [13]. Anticoagulation with apixaban and immunosuppression were initiated in parallel, along with thrombolysis and interventional procedures. Such a multidisciplinary approach was critical in preventing long-term complications and preserving renal function.

This case report has few limitations. First, long-term follow-up data are not yet available to assess renal and vascular outcomes or risk of recurrence. Second, although APLA were positive, repeat testing at 12 weeks (required for APS diagnosis per revised Sapporo criteria) was not yet performed at the time of manuscript preparation [8]. Lastly, this is a single patient experience, and broader generalizations cannot be made from isolated reports. Nonetheless, it highlights the clinical vigilance needed to detect atypical presentations of SLE and the importance of including autoimmune screening in young patients with unexplained thromboembolic events.

Conclusion

This case highlights an atypical presentation of SLE in a young male, where extensive VTE, including DVT and pulmonary embolism, was the initial manifestation in the absence of classical clinical features. The diagnosis of lupus nephritis was confirmed only after a thorough autoimmune workup and renal biopsy. This underscores the critical importance of considering autoimmune diseases such as SLE in the differential diagnosis of unprovoked thromboembolic events in young patients, regardless of gender or absence of typical symptoms. Early recognition and appropriate immunosuppressive and anticoagulant therapy can significantly improve patient outcomes and prevent long-term complications.

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Conflict of Interest

Not available

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Not available

References

1. Tsokos GC. Systemic lupus erythematosus. N Engl J Med. 2011 Dec 15;365(22):2110-2121. DOI: 10.1056/NEJMra1100359
2. Tan TC, Fang H, Magder LS, Petri M. Differences between male and female systemic lupus erythematosus in a multiethnic population. J Rheumatol. 2012 Feb;39(2):285-287. DOI: 10.3899/jrheum.110677
3. Bertsias GK, Ioannidis JP, Boletis J, Bombardieri S, Cervera R, Dostal C, et al. EULAR recommendations for the management of systemic lupus erythematosus with neuropsychiatric manifestations and lupus nephritis. Ann Rheum Dis. 2012 Dec;71(11):1771-1781. DOI: 10.1136/annrheumdis-2012-201940

4. Yap DYH, Chan TM. Lupus nephritis in Asia: clinical features and management. Kidney Dis (Basel). 2020 Jul;6(2):80-90. DOI: 10.1159/000504382
5. Weening JJ, D'Agati VD, Schwartz MM, Seshan SV, Alpers CE, Appel GB, et al. The classification of glomerulonephritis in systemic lupus erythematosus revisited. Kidney Int. 2004 Feb;65(2):521-530. DOI: 10.1111/j.1523-1755.2004.00443.x
6. Cervera R, Piette JC, Font J, Khamashta MA, Shoenfeld Y, Camps MT, et al. Antiphospholipid syndrome: clinical and immunologic manifestations and patterns of disease expression in a cohort of 1,000 patients. Arthritis Rheum. 2002 Apr;46(4):1019-1027. DOI: 10.1002/art.10187
7. Zöller B, Li X, Sundquist J, Sundquist K. Risk of pulmonary embolism in patients with autoimmune disorders: a nationwide follow-up study from Sweden. Lancet. 2012 Feb 18;379(9812):244-249. DOI: 10.1016/S0140-6736(11)61306-8
8. Miyakis S, Lockshin MD, Atsumi T, Branch DW, Brey RL, Cervera R, et al. International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome (APS). J Thromb Haemost. 2006 Feb;4(2):295-306. DOI: 10.1111/j.1538-7836.2006.01753.x
9. Zahr N, Al-Katib A, Kaplan J, Catalano E, Ghobrial I. Pulmonary embolism as the initial presentation of systemic lupus erythematosus in a male patient. Case Rep Rheumatol. 2016;2016:8691269. DOI: 10.1155/2016/8691269
10. Shen H, Zhang Y, Wang Q, Li M, Zhang FC, Dong Y, et al. Gender differences in systemic lupus erythematosus: A study of 1017 Chinese patients from a single center. Lupus. 2012 Feb;21(3):239-243. DOI: 10.1177/0961203311429817
11. Danchenko N, Satia JA, Anthony MS. Epidemiology of systemic lupus erythematosus: A comparison of worldwide disease burden. Lupus. 2006;15(5):308-318. DOI: 10.1191/0961203306lu2305xx
12. Erkan D, Lockshin MD. APS, pregnancy loss, and thrombosis. Lupus. 2007;16(10):748-753. DOI: 10.1177/0961203307081790
13. Houssiau FA, Vasconcelos C, D'Cruz D, Sebastiani GD, Ramon DE, Danieli MG, et al. The 10-year follow-up data of the Euro-Lupus Nephritis Trial comparing low-dose and high-dose intravenous cyclophosphamide. Ann Rheum Dis. 2010 Dec;69(1):61-64. DOI: 10.1136/ard.2008.102533

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