A Rare Coexistence Of HIV And Systemic Lupus Erythematosus With Lupus Nephritis

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Introduction

The co-existence of Human Immunodeficiency Virus (HIV) infection and Systemic Lupus Erythematosus (SLE) is an unusual and intriguing clinical entity. Both are chronic conditions with complex immunopathology-HIV is characterized by immune suppression, whereas SLE is an autoimmune disease marked by immune hyperactivity. The paradox of these two opposing immune states coexisting raises compelling questions about disease pathogenesis, immune regulation, and treatment strategies.

Case Presentation

A 28-year-old female with HIV infection on HAART (DTG/3TC/TDF) for 4 years, showing good compliance and viral suppression, presented with:

- Facial puffiness, pedal edema, oliguria followed by anuria for one week, and fever.
- Vitals: Tachypneic, tachycardic, BP: 100/60 mmHg.
- Physical Exam: Periorbital and bilateral pedal edema (up to the knee joint).

Initial Investigations:

Hemoglobin: 6.8 g/dL | Platelets: 88,000/mm3 | WBC: 4,000/mm3 | Urine Protein: 4+ | RBC: 13/HPF | Serum Creatinine: 4.5-6.1 mg/dL

Albumin: 1.4 g/dL | C3: 31, C4: 3 | Triglycerides: 478 mg/dL | HIV Viral Load: Undetectable | CD4 Count: 176 cells/mm3

dsDNA & Nucleosome Antibodies: Strong positive | Imaging: Pleural effusion, ascites.

Management and Course

Initial Management:

- Deferred IV cyclophosphamide due to thrombocytopenia.
- Initiated hemodialysis for anuria and metabolic acidosis.

- Administered pulse methylprednisolone followed by oral steroids (0.5 mg/kg).

Renal Biopsy (Day 18):

- Lupus Nephritis Class IIIA + V | Activity Score: 1/12 | Chronicity: 0/12 | IF: Full house pattern.

Discharge Plan:

- Oral steroids | Modified ART | Creatinine: 1.24 mg/dL | Urine output: 1.5 L/day

Follow-up (Day 28):

- Mycophenolate mofetil 250 mg BD, ACE inhibitor, steroid taper

- Modified ART: Abacavir, Lamivudine, Dolutegravir

Discussion

The intersection of HIV and autoimmune diseases like SLE presents unique diagnostic and therapeutic challenges. HIV may suppress autoimmune activity, but immune reconstitution on HAART can unmask such diseases.

This patient had undetectable viral load and moderate CD4 count, potentially allowing SLE to manifest. Renal biopsy confirmed Class IIIA + V lupus nephritis.

Relevant Studies:

- Kopelman et al. (1988): First reported co-existence.

- Haas et al. (2000): Lupus-like GN in 13% of PLHIV with kidney disease.

- Yao et al. (2004): Immune reconstitution as a trigger.

- Wen et al. (2020): Full-house IF pattern remains specific.

- Cohen et al. (2002): Diverse HIV-related nephropathies.

Treatment Dilemmas:

- Immunosuppressants increase infection risk.

- ART needs adjustment to avoid nephrotoxicity.

- Frequent CD4/viral load monitoring essential.

Conclusion

This case underscores the complexity of diagnosing and managing concurrent HIV and SLE. It emphasizes

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the importance of tailored treatment strategies that balance immunosuppression and ART. Clinicians must remain vigilant for autoimmune manifestations in PLHIV, especially following immune reconstitution.

References

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