A Case of Severe HIV-Associated Psoriasis Successfully Treated with Glucocorticoids and Antiretroviral Therapy

APCCMI2025 BANGKOK

CAS-064

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Case: 37-year-old man

History of present illness

- Men who have sex with men (MSM) with a history of syphilis treated one year earlier
- Nine months before admission: infiltrative erythema on the chest, unresponsive to topical glucocorticoids (GC) and antifungals
- Two months before: diagnosed with psoriasis vulgaris (PASI 14.2) at dermatology
- HIV screening with consent was positive; referred to our department and HIV-1 infection was confirmed
- Three weeks before admission: fever and dyspnea appeared
- CT: diffuse bilateral ground-glass opacities; serum β-D-glucan elevated
- Diagnosed with Pneumocystis pneumonia (PCP) and AIDS; admitted to our hospital

Physical examination

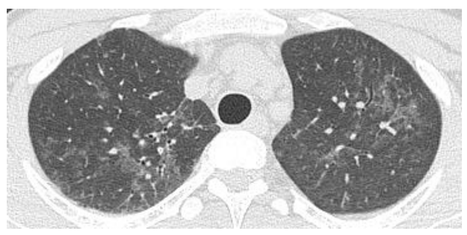
- Height 171 cm, weight 60 kg (4 kg loss in 2 months; 12 kg loss from baseline)
- Temperature 38.0 °C, pulse 92 bpm, blood pressure 124/68 mmHg, SpO_2 97% (room air)
- Lung auscultation: clear breath sounds, no rales, no laterality
- Skin: scattered erythematous plaques with scales on the trunk and extremities

Laboratory data

WBC	4600	/μL	RPR	1.9	R.U.
Hb	12.2	g/dL	TPHA	311	T.U.
Plt	23.7	×10⁴/μL	HBs antigen	(—)	
AST	15	U/L	HBs antibody	96.9	mIU/mL
ALT	10	U/L	HBc antibody	7.5	S/CO
LDH	207	U/L	HCV antibody	(—)	
Alb	3.3	g/dL	HIV antigen/antibody	(+)	
BUN	10	mg/dL	HIV-1 antibody	(+)	
Cr	0.89	mg/dL	HIV-2 antibody	(—)	
CRP	0.15	mg/dL	HIV-RNA	690000	copies/mL
β-DG	98.2	pg/mL	CD4+ T-cell count	102	cells/μL

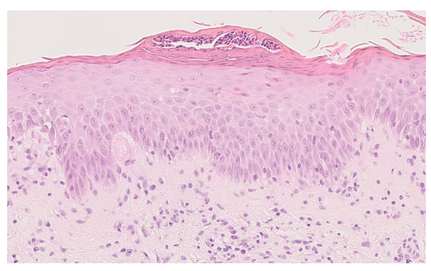
Chest CT

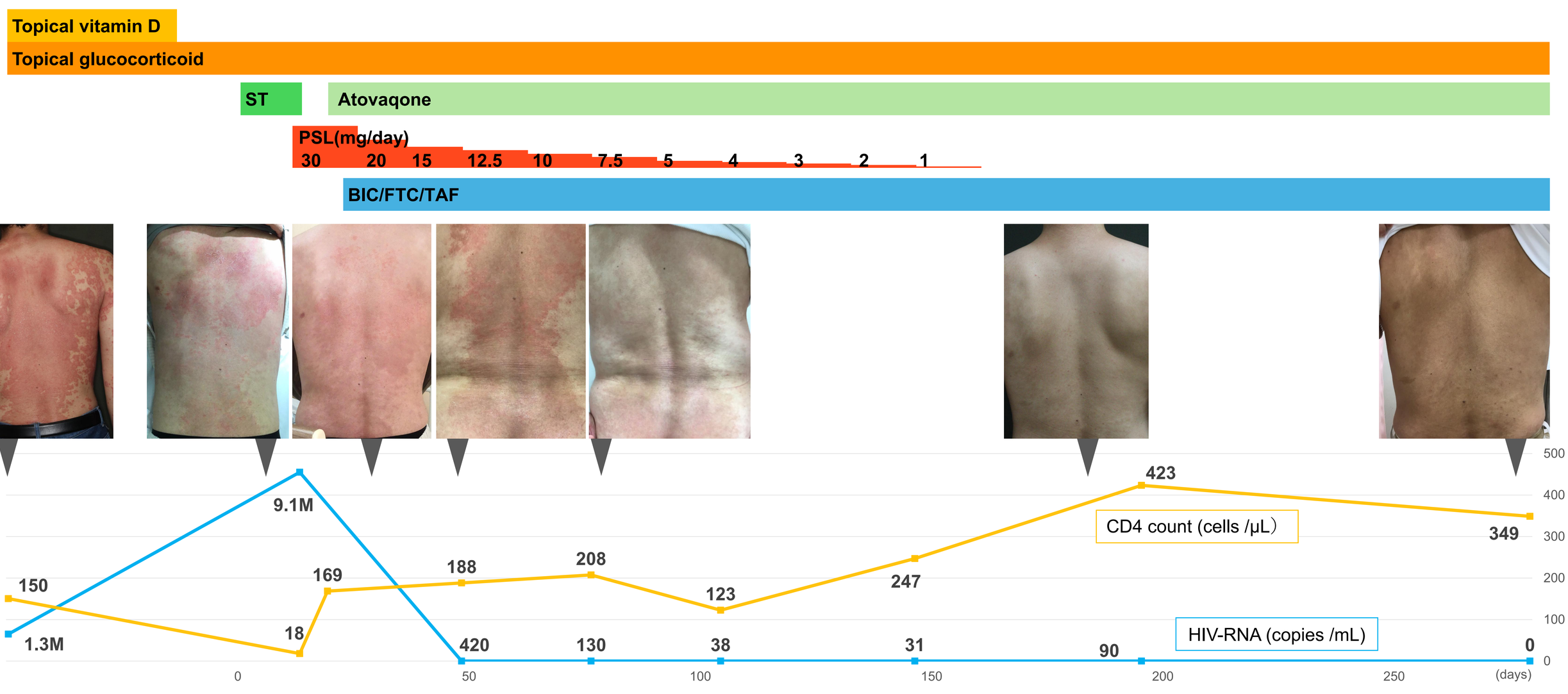
Diffuse bilateral ground-glass opacities



Skin biopsy

- Irregular acanthosis with hyperkeratosis and parakeratosis
- Intra-stratum corneum neutrophil infiltration
- Dermal lymphocytic/histiocytic infiltration





- ✓ Trimethoprim–sulfamethoxazole (ST) initiated for PCP; fever persisted
- ✓ Prednisolone (PSL) 30 mg/day (0.5 mg/kg) started on Day 12 → rapid defervescence and marked improvement of psoriasis
- ✓ ST discontinued due to cytopenia and liver dysfunction; switched to atovaquone
- ✓ Serum HIV-RNA increased (1.3 → 9.1 million copies/mL) → Anti-Retroviral Treatment (ART) initiated on Day 20
- ✓ No immune reconstitution inflammatory syndrome (IRIS) observed; discharged on Day 34
- ✓ Psoriasis worsened during PSL tapering, but improved with continued ART and topical therapy
- ✓ PSL tapered off over 5 months without further exacerbation of psoriasis

Discussion

HIV-associated psoriasis

- Prevalence in HIV-positive patients: 1–3% (similar or slightly higher than general population)
- Often atypical, refractory, and may be the first sign leading to HIV diagnosis

Pathogenetic hypotheses (1)

① Imbalance of CD4+/CD8+ T cells
② IFN-γ production by CD8+ T cells
③ HIV gp120 envelope protein acting as a superantigen

Treatment considerations

- If viral load is uncontrolled → initiate ART first (2)
  If controlled (CD4 count > 500 cells /μL) → treat as in general psoriasis (2)
- Psoriasis may worsen as IRIS after ART initiation (3,4)
- Systemic glucocorticoids are generally not recommended due to risk of infection and pustular transformation of psoriasis
- Without ART, systemic GC may worsen HIV disease (5)
- Systemic therapy (biologics, immunosuppressants) has not increased infection or malignancy risk in reports (2,6)

Conclusion

- We report a case of severe HIV-associated psoriasis that progressed from HIV infection to AIDS after diagnosis.
- Skin lesions were refractory to topical therapy but responded remarkably to systemic GC and ART.
- In this case, GC administered for PCP was also effective for psoriasis.
- Under strict ART management, concomitant use of GC may help control psoriasis while preventing IRIS-related exacerbation after ART initiation.

Reference

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Conflict of interest

The authors declare that they have no conflict of interest.