




# Cutaneous features of anti-TIF1- $\gamma$ -associated dermatomyositis

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## Case presentation

A 75-year-old Chinese male presented with 6 months history of progressive, pruritic rashes on his occiput, face, back, arms, and thighs, associated with dysphagia, hoarseness, and proximal weakness.

Examination revealed classical features of dermatomyositis, including holster sign (Fig. 1a), heliotrope rash (Fig. 1b), and flagellate erythema (Fig. 1c). Additionally, his holster sign featured an admixture of red-brown follicular macules within hypopigmented patches, characteristic of “red-on-white patches” described in anti-transcriptional intermediary factor-1 $\gamma$  (anti-TIF1- $\gamma$ )-associated dermatomyositis. He also had hyperkeratotic papules over his fingers (Fig. 1d), another distinctive feature of anti-TIF1- $\gamma$ -associated dermatomyositis.

Skin biopsy revealed interface dermatitis with increased dermal mucin consistent with dermatomyositis. Laboratory testing confirmed anti-TIF1- $\gamma$  positivity and elevated serum creatinine kinase. He was initiated on methylprednisolone and intravenous immunoglobulins with improvement in his rash and muscle symptoms. Malignancy work-up revealed diffuse nasopharyngeal mucosal thickening on magnetic resonance imaging. Posterior nasal space biopsy was unyielding. He declined repeat biopsies and remains on surveillance with Otorhinolaryngology.

## Discussion

Anti-TIF1- $\gamma$  is a myositis-specific autoantibody found in dermatomyositis which confers an increased malignancy risk [1]. A constellation of characteristic cutaneous features have been described including psoriasiform lesions, “red-on-white” patches (hypopigmented macules/patches associated with focal, often follicular, telangiectatic erythema), small verruca-like papules on the palmar aspects [1], and the “ovoid palatal patch” (consisting of a well-demarcated, erythematous patch on the posterior hard palate) [2]. Moreover, anti-TIF1- $\gamma$  positive patients are more likely to have gastrointestinal involvement, hypomyopathic muscle disease, and severe photosensitive rashes, but less frequent systemic features like interstitial lung disease, arthritis, and Raynaud phenomena [3]. Sung et al. have observed that malignancies associated with idiopathic inflammatory myopathies most commonly arise 1 year before or after the latter’s diagnosis and denote a poorer prognosis [4].

Physicians should be familiar with the skin-muscle-serology correlation presented and promptly investigate for associated malignancies as indicated.

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**Fig. 1** **a** Rash on lateral aspect of the patient’s left thigh (“holster sign”) also demonstrating the “red-on-white” patches characteristic of anti-TIF1- $\gamma$ -associated dermatomyositis. **b** Typical heliotrope rash over the upper eyelids, extending downwards along the nasolabial sulcus. **c**

Flagellate erythema over the anterior torso. **d** Verrucous and keratotic papules along the lateral edges of the patient’s right thumb and index finger, also characteristic of anti-TIF1- $\gamma$ -associated dermatomyositis

**Authors’ contributions** All of the authors contributed equally to the manuscript and have equal rights to authorship.

**Data availability** All the authors had equal and complete access to available data in the drafting of this manuscript.

### Compliance with ethical standards

**Disclosures** None.

**Ethics approval** Not applicable.

**Consent to participate** Not applicable.

**Consent for publication** See patient’s consent form.

**Code availability** Not applicable.

### References

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