

# An Overview of Therapies for Scalp Dermatomyositis



Avani Kolla, BPhil<sup>1\*</sup>; Lynn Liu, BS<sup>1\*</sup>; Katharina Shaw, MD<sup>1</sup>; Jerry Shapiro, MD<sup>1</sup>; Alisa Femia, MD<sup>1\*\*</sup>; Kristen Lo Sicco, MD, FAAD<sup>1\*\*</sup>

\*Authors contributed equally; \*\*Authors contributed equally

<sup>1</sup>The Ronald O. Perelman Department of Dermatology, NYU Grossman School of Medicine, New York, NY

## INTRODUCTION

- Cutaneous dermatomyositis (DM) negatively impacts health-related quality-of-life
- Cutaneous involvement of the scalp is a common manifestation of DM
  - Scalp symptoms/signs include: skin eruption, non-scarring alopecia, pruritus, and/or burning
  - These symptoms are often severe and debilitating, as well as frequently recalcitrant to standard skin and/or muscle-directed therapies
- There is a paucity of guidelines to inform management of scalp symptoms in patients with cutaneous DM
- Aim: Review the literature regarding treatments utilized for cutaneous DM in patients with scalp symptoms**

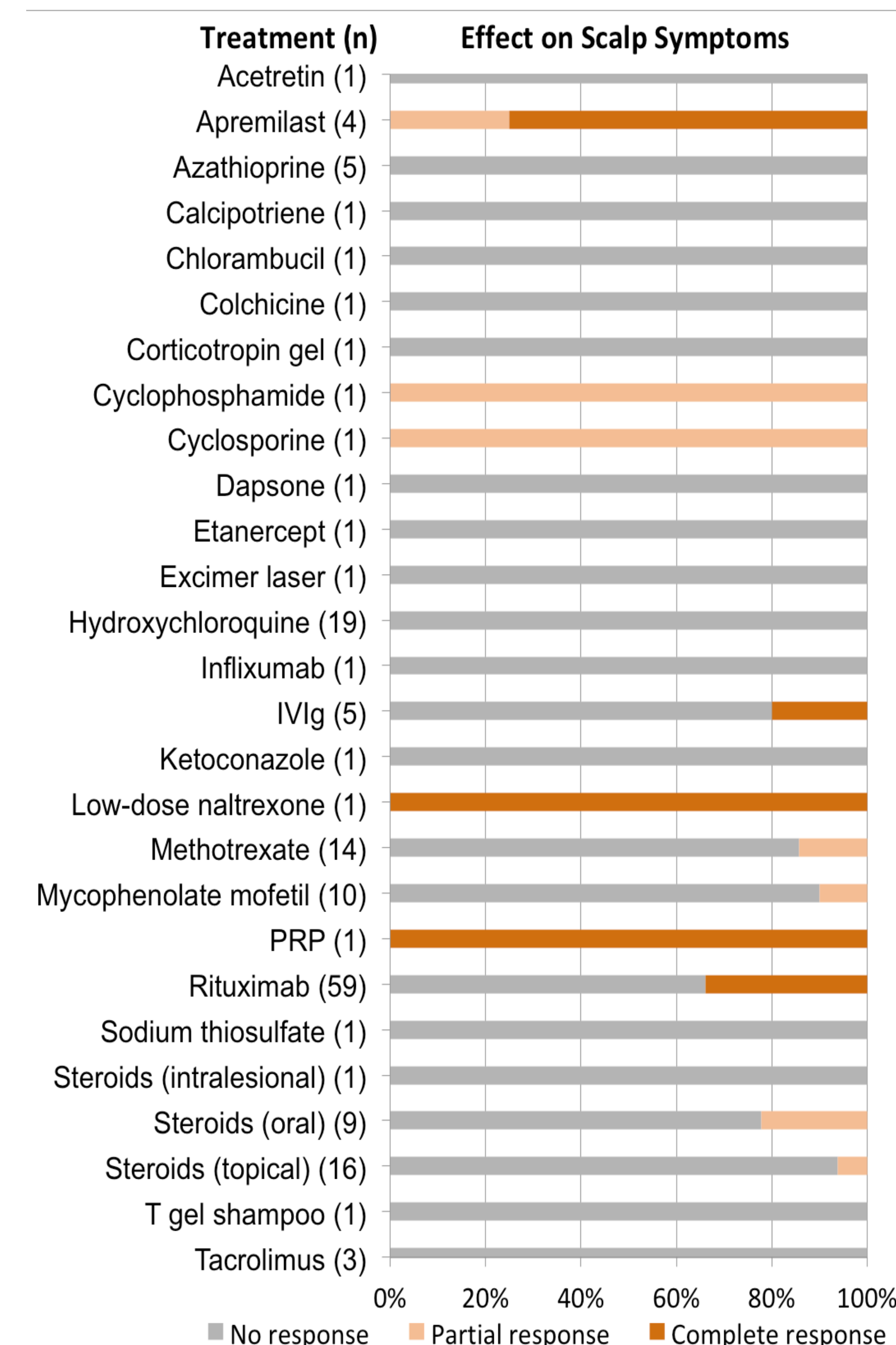
## Methods

- PubMed and Google Scholar databases were searched
  - Key terms: *dermatomyositis, scalp, hair, alopecia, and treatment*
- Inclusion criteria: primary research reporting treatment outcomes in at least one patient with DM with scalp
- Exclusion criteria: review articles
- Data regarding baseline scalp symptoms, previous and current treatment regimens, and level of improvement in scalp symptoms were collected

## RESULTS

- 8 studies were identified from 2005 to 2019
  - Primary focus was general cutaneous DM in 6 studies and scalp DM in 2 studies
- 77 patients with cutaneous DM were reported to have scalp symptoms
  - Mean (range) length of cutaneous DM: 9.6 years (3 month to 22 years)
  - Majority of patients had previously utilized  $\geq 3$  treatments with minimal improvement in cutaneous symptoms
- 27 treatments were reported to have been utilized to manage cutaneous DM in patients with scalp involvement

## RESULTS



## RESULTS

Treatments Resulting in Complete Resolution of Scalp Symptoms	Study Types (n)	Scalp Symptoms with Improvement	Improvement in Other Cutaneous Symptoms?
<b>Platelet-rich plasma (PRP)</b>	Case report (1)	Pruritus, erythema, alopecia	No
<b>Low-dose naltrexone</b>	Case report (1)	Pruritus	Yes
<b>Apremilast</b>	Case series (3), case series (1)	Pruritus	Yes
<b>Rituximab</b>	Case series (3), pilot study (2), RTC (54)	Pruritus, erythema, alopecia	Yes
<b>Intravenous immunoglobulin (IVIg)</b>	Retrospective analysis (1)	Not specified	Not specified

## CONCLUSIONS

- Literature regarding treatments for scalp DM is limited and consists largely of case reports/case series
- Scalp DM is often **recalcitrant to standard skin-directed therapies** for DM (i.e. corticosteroids, hydroxychloroquine, and methotrexate)
  - Notably, studies not included in this review have examined these therapies and have yielded moderate/positive results for cutaneous DM, but did not comment on scalp symptoms
- Low-dose naltrexone** and **PRP**, as well as two frequent and one less common therapy for cutaneous dermatomyositis (**IVIg, rituximab, and apremilast**, respectively), have been associated with improvement in scalp symptoms and in some cases, full sustained resolution
  - These therapies, particularly rituximab, may represent promising areas of future research
  - Further evaluation with larger clinical trials is necessary to better determine the clinical utility of these therapies in managing scalp DM
- Limitations:** small sample sizes of studies, heterogeneity of studies reviewed, lack of validated outcome measures for scalp involvement in DM, and potential for selection bias

## REFERENCES

Tilstra JS, Prevost N, Khera P, English JC, III. Scalp Dermatomyositis Revisited. *Archives of dermatology*. 2009;145(9):1062-1063.

Bitar C, Maghfour J, Ho-Pham H, Stumpf B, Boh E. Apremilast as a potential treatment for moderate to severe dermatomyositis: A retrospective study of 3 patients. *JAAD case reports*. 2019;5(2):191-194.

Charlton D, Moghadam-Kia S, Smith K, Aggarwal R, English JC, 3rd, Oddis CV. Refractory Cutaneous Dermatomyositis With Severe Scalp Pruritus Responsive to Apremilast. *Journal of clinical rheumatology : practical reports on rheumatic & musculoskeletal diseases*. 2019.

Dinh HV, McCormack C, Hall S, Prince HM. Rituximab for the treatment of the skin manifestations of dermatomyositis: a report of 3 cases. *Journal of the American Academy of Dermatology*. 2007;56(1):148-153.

Manudhane AP, Schrom KP, Ezaldein HH, Armile JA. Low-dose naltrexone: a unique treatment for amyopathic dermatomyositis. *Dermatology online journal*. 2019;25(6).

Levine TD. Rituximab in the treatment of dermatomyositis: an open-label pilot study. *Arthritis and rheumatism*. 2005;52(2):601-607.

Aggarwal R, Loganathan P, Koontz D, Qi Z, Reed AM, Oddis CV. Cutaneous improvement in refractory adult and juvenile dermatomyositis after treatment with rituximab. *Rheumatology (Oxford, England)*. 2017;56(2):247-254.

Hosking A, Juh-sz M, Ekelem C, et al. Improvement in Scalp Dermatomyositis with Platelet-Rich Plasma. 2018.