

# Efficacy and Safety of 12-Week Alternating Topical Steroid Regimens in Early-Stage Mycosis Fungoides: A Retrospective Cohort Study



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## Introduction

- **Mycosis fungoides (MF)** is the most common cutaneous T-cell lymphoma, typically presenting in early stages (IA-IIA)
- Early-stage MF (IA-IIA) is primarily managed with skin-directed therapies, with topical corticosteroids serving as first-line therapy
- **No standardized treatment protocol exists for topical steroid therapy** in MF, with significant variation in steroid selection, potency, and duration
- Dartmouth Health utilizes a 12-week alternating regimen: High-potency and medium-potency topical steroids alternated every 2 weeks
- **Clinical relevance:** Understanding which patients benefit the most from steroid usage and optimizing treatment selection

### Research Question

What are the efficacy, durability, and predictors of response to 12-week alternating topical corticosteroid therapy in early-stage mycosis fungoides?

## Methods

**Table 1. Participant Characteristics**

Demographic Characteristics	Value n (%)
<b>Age (years)</b>	
Mean ± SD	68.0 (35.0-90.0)
<b>Gender</b>	
Male	44 (60.3%)
Female	29 (39.7%)
<b>Race*</b>	
White	67 (91.8%)
Other	6 (8.2%)
<b>Ethnicity</b>	
Hispanic, Spanish, or Latino	7 (9.6%)
<b>Insurance Status</b>	
Medicare	48 (65.8%)
Private	25 (34.2%)
<b>Immunity Status</b>	
Immunosuppression	3 (4.1%)
<b>Stage at Treatment, n (%)</b>	
IA	68 (93.2%)
IB	4 (5.5%)
IIB	1 (1.4%)
<b>Lesion Type, n (%)</b>	
Patch	50 (68.5%)
Plaque	5 (6.8%)
Mixed (Patch and Plaque)	18 (24.7%)
<b>BSA Involvement</b>	
Baseline Median (range)	3.0 (1.0-15.0)

→ Retrospective chart review of early-stage, biopsy-proven MF patients treated between 2015 and 2023 with a 12-week alternating topical steroid regimen at Dartmouth Health

### Primary Endpoints:

Clinical response rate (CR, PR, NR, PD); Body surface area (BSA)

**Secondary:** Recurrence rate, duration of response, time to next treatment, adverse events

### Statistical Analysis:

Chi-square/Fisher's exact for response rates; paired t-test for BSA change; Kaplan-Meier curves and Cox regression

## Results

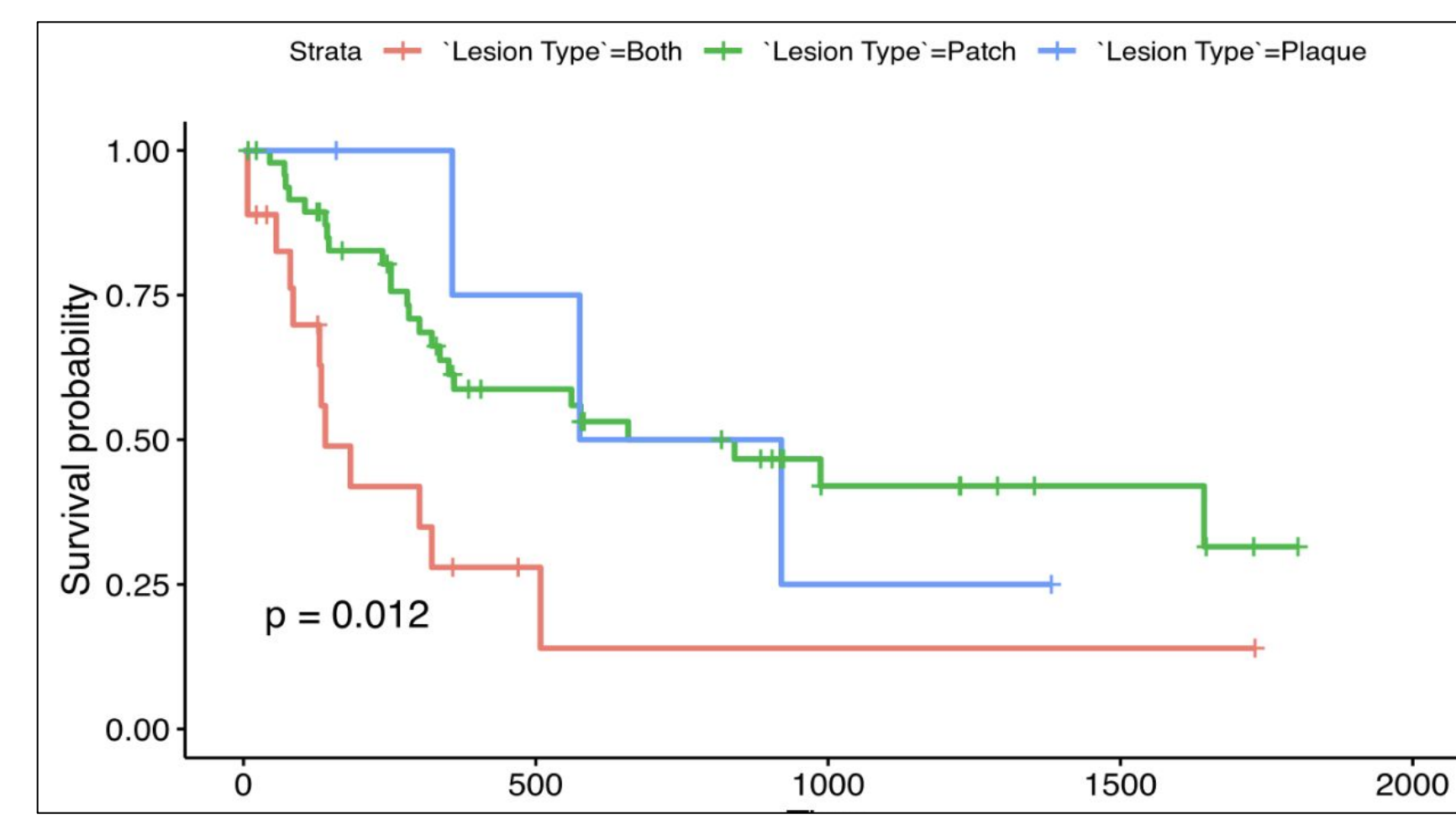
### Clinical Responses by Regimen

Treatment Regimen	CR	NR	PD	PR
Alclometasone Dipropionate + Mometasone Furoate	1	0	0	0
Betamethasone Dipropionate + Mometasone Furoate	0	0	0	2
Betamethasone Dipropionate + Triamcinolone	2	0	0	12
Clobetasol + Triamcinolone	9	2	2	39
Halobetasol Propionate + Triamcinolone	1	0	0	1
Hydrocortisone + Triamcinolone	0	0	0	2

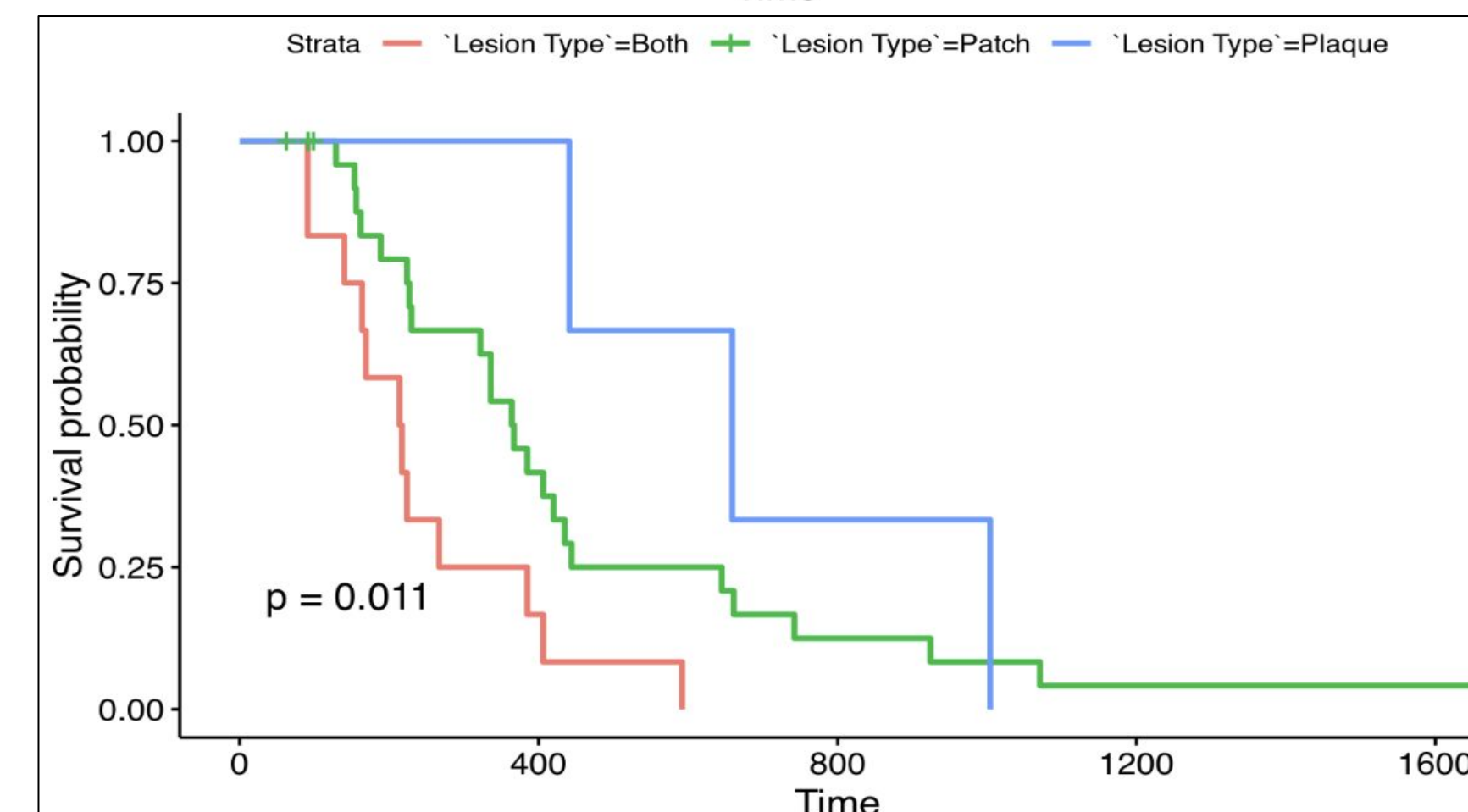
### % Decrease in BSA by Stage and Regimen

Treatment Regimen	Mean % Decrease	SD	Median % Decrease	P Value
Betamethasone Dipropionate + Triamcinolone	1.692	2.136	2	0.6636
Clobetasol + Triamcinolone	2.041	3.702	1	

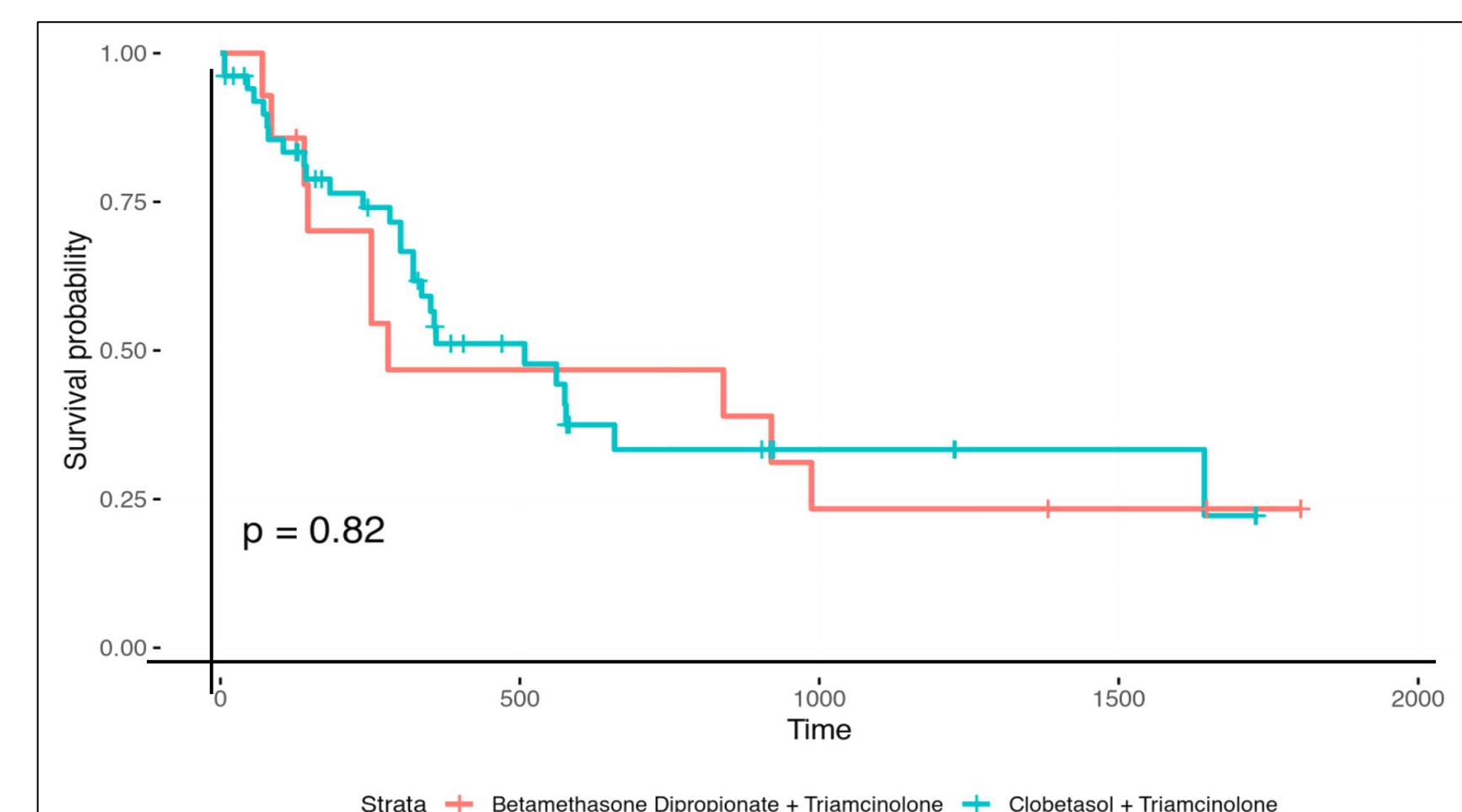
Stage at Diagnosis	Mean % Decrease	SD	Median % Decrease	P Value
IA	2.038	2.862	1	0.0008
IB	2.615	5.881	1	



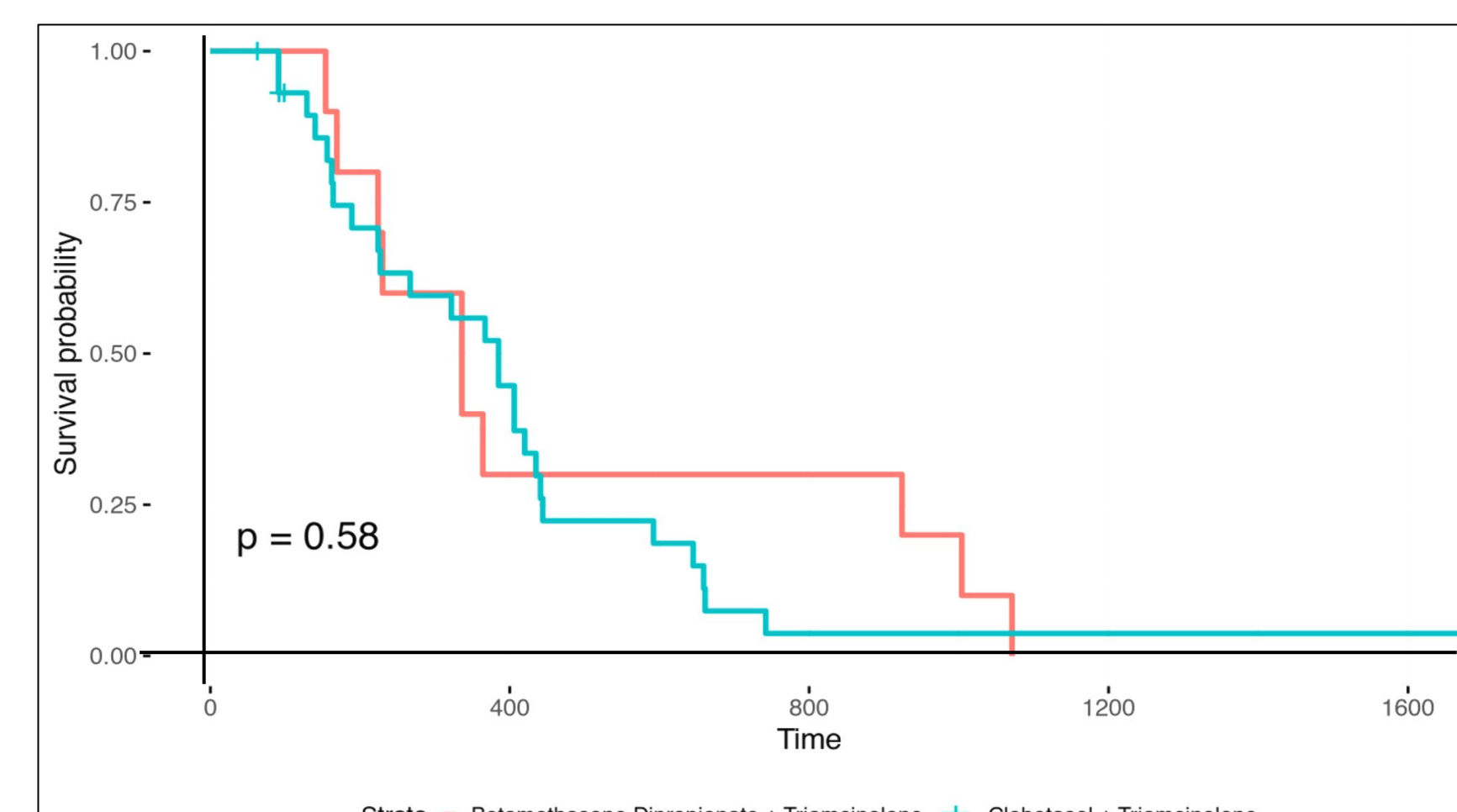
Time to Loss of Response by Lesion Morphology (p = 0.012)



Time to Next Treatment by Lesion Morphology (p = 0.011)



Time to Loss of Response by Steroid Combination (p = 0.82)



Time to Next Treatment by Steroid Combination (p = 0.58)

## Discussion

- **High response rates (94.5%)** with no differences between corticosteroid combinations support flexible agent selection.
- **Stage IB patients achieved greater BSA reduction (p=0.0008)** despite higher risk of requiring subsequent treatment
- **Lesion morphology** emerges as the most critical predictor of treatment durability:
  - **Mixed patch and plaque lesions** showed 4.4× higher recurrence hazard (p<0.001)
  - Clinicians should counsel these patients about higher recurrence risk and monitor more closely
- **Stage IB patients demonstrated 2.65× higher risk of requiring subsequent treatment** despite similar initial response rates
  - May benefit from extended treatment duration or closer observation
- Safety profile (**12.3% mild adverse events**) supports first-line therapy

## Limitations

- Single-center retrospective design subject to selection bias and incomplete records
- Small sample size for Stage IB (n=4) and IIB (n=1) limits statistical power for stage-based subgroup analyses
- Advanced-stage patients often receive radiation and phototherapy, making retrospective steroid-only cohorts difficult to identify
- Homogeneous population (91.8% White) may limit generalizability to other racial and ethnic groups
- Lack of comparison control group, as the 12-week alternating steroid regimen has been standard practice at Dartmouth Health for many years

## Future Directions

- Multi-center prospective trials with standardized response criteria and diverse populations
- Investigation of optimal treatment duration beyond or less than 12 weeks for high-risk patients
- Longer follow-up studies to assess durability and late recurrence patterns
- Biomarker studies to assess mixed lesion prognosis and outcomes

## Conclusion

Alternating 12-week topical corticosteroid regimens are safe and highly effective (94.5% response rate) in early-stage mycosis fungoides, with no difference between specific combinations – supporting flexible agent selection. **Lesion morphology is the critical prognostic factor:** mixed patch and plaque lesions demonstrate 4.4× higher recurrence risk compared to patches alone, providing essential guidance for patient counseling and treatment planning.