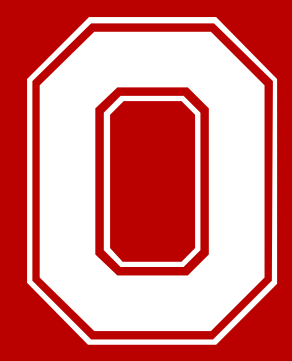


# Utility of skin biopsy in patients with systemic lupus erythematosus

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## Background/Introduction

- Histological findings of systemic lupus erythematosus (SLE) include perivascular lymphocytic infiltration and interface dermatitis
  - These findings are nonspecific, requiring clinicopathologic correlation, which is challenging in clinically ambiguous cases
- Objective: Determine how frequently biopsy results in SLE patients changed management
- Determine whether skin biopsy should be integrated into workflow of patients undergoing workup for new presentation of SLE or in cases of known SLE but unclear if skin changes are related

## Methods

- Connective tissue disease patients seen by rheumatology and dermatology who had skin biopsy between 2015-2022 at single institution were identified
- 48 patients had clinical diagnosis of SLE and selected for retrospective chart review
- Data collected: Skin biopsy results and changes in medical treatments

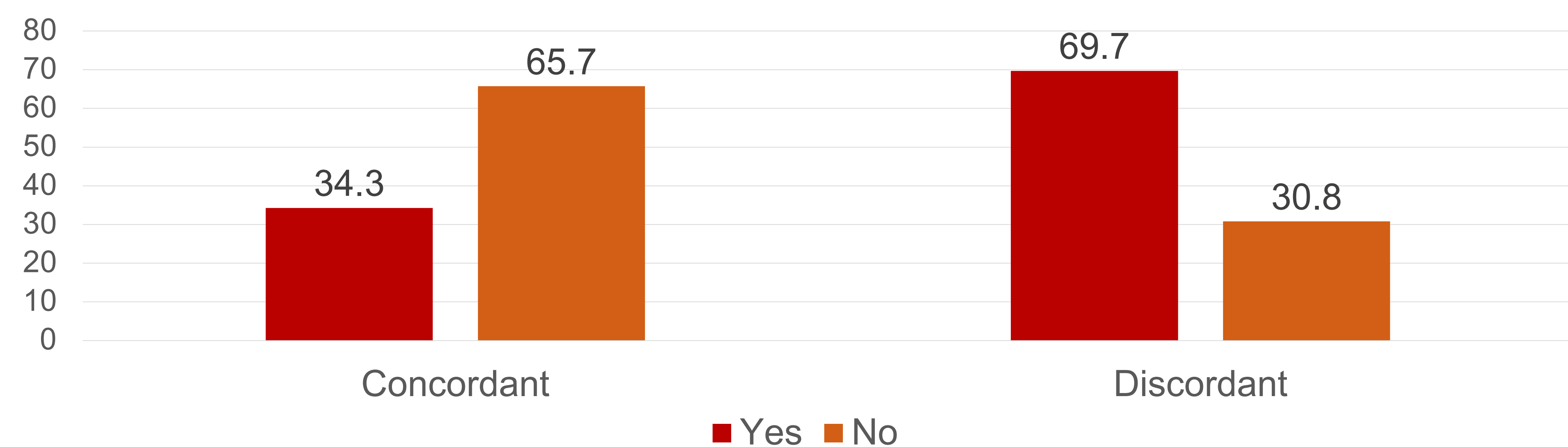
## Results

- 27.1% of all cases showed discordance between clinical and histopathologic diagnosis → more changes in management within this subset (69.7%, Table 1)
- Biopsy results showing psoriasiform changes → addition of metformin or apremilast (Table 2)
- Concordance between clinical and histopathologic diagnosis → fewer changes in management within subset (34.3%, Table 1) such as increased number or dosage of immunosuppressants (e.g., hydroxychloroquine, dapsone)

**Table 1. Clinicopathologic concordance and frequency of management changes in clinically diagnosed systemic lupus erythematosus patients who underwent skin biopsy for new skin changes.**

Concordance Between Clinical Diagnosis and Biopsy Results	Number of Patients	Percentage of Total Patients	Did management change? (Y/N)	Number of Patients	Percentage of Concordance Subset
Concordant	35	72.9%	Y	12	34.3%
			N	23	65.7%
Discordant	13	27.1%	Y	9	69.7%
			N	4	30.8%

**Figure 1. Bar graph of percentages of concordance subsets from Table 1.**



**Table 2. Biopsy results in resultant changes in management for the nine systemic lupus erythematosus patients whose biopsy results were discordant with their clinical diagnosis and warranted management changes.**

Biopsy Result	Change in Management	Percentage of Discordance Subset
Psoriasiform Changes	Switch to methotrexate, apremilast, and/or prednisone	55.6%
Spongiotic/Nummular Dermatitis	Topical steroids	44.4%
Folliculitis	Clindamycin lotion	11.1%

## Discussion

- Skin biopsies are often not performed if clinical presentation of skin changes fits classic descriptions of SLE
- Skin biopsy results are consistent with clinical diagnosis in most cases, but 27.1% of cases were not
- Larger proportion of patients required change in management in discordance subset than in concordance subset
- Gross appearance of papulosquamous SLE-like rashes warrants wide differential diagnosis, including contact dermatitis and psoriasis
- Differential for discoid lupus skin changes includes keratoacanthoma, squamous cell carcinoma, prurigo nodularis, hypertrophic lichen planus<sup>2</sup>
- Skin biopsy, combined with clinicopathological correlation, remains the definitive method for determining whether skin changes are secondary to SLE
- Limitations: small sample size from single institution
- Future directions: large-scale multicenter prospective study to determine whether skin biopsy results are affected by whether patient has known history of SLE

## Conclusion

- Patients presenting with rash concerning for SLE are diagnosed clinically, and data on skin biopsy is limited
- Biopsy results were different from clinical diagnosis in 27% of cases, thus impacting management
- Skin biopsy should be integrated in cases of clinical ambiguity

## References & Acknowledgments

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