

# Analyzing the Persistence of Psoriasis in Pharmacologically Immunosuppressed Solid Organ Transplant Recipients: A Retrospective Chart Review

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## BACKGROUND

- Psoriasis is a chronic inflammatory skin disorder.
- There is a significant overlap between medications that are effective in treating psoriasis and medications used for solid organ transplant (SOT) rejection prophylaxis.
- The persistence of psoriasis in SOT recipients is a surprising phenomenon that we have observed clinically.

## STUDY OBJECTIVES

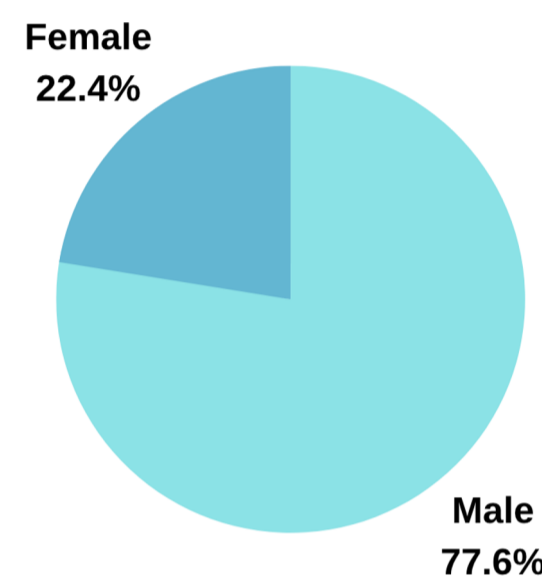
- Investigate the frequency of persistent psoriasis in SOT recipients.
- Analyze the factors associated with persistent psoriasis in SOT recipients.

## METHODS

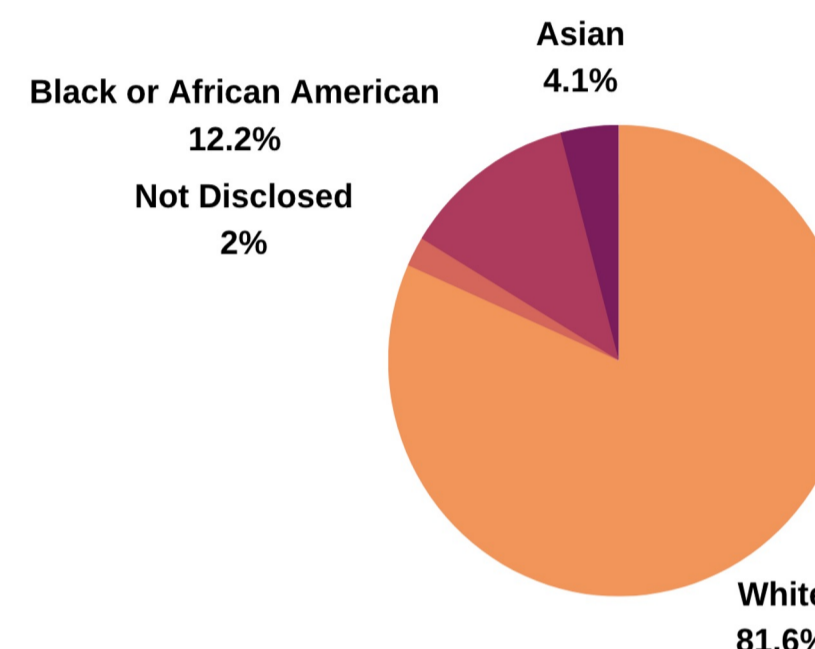
- **Population**  
 SOT patients seen by Johns Hopkins Dermatology between 2014 and 2022.
- **Inclusion Criteria:**
  - Diagnosis of psoriasis predating SOT.
  - History of pharmacological immunosuppression after SOT.
- **Exclusion Criteria:**
  - Inadequate documentation in patient electronic record.
- **Data Collection**
  - 207 patient records were screened.
  - 49 patient records were included, and 88 follow-up visits were reviewed.
  - The first three dermatology progress notes characterizing psoriasis after SOT were evaluated.
- **Main Outcomes**
  - Evidence of clinically persistent psoriasis after SOT.
- **Statistical Analysis**  
 Descriptive Statistics, ANOVA, and Chi-Squared Test.

## RESULTS

### Sex Assigned at Birth



### Race



### SOT Type

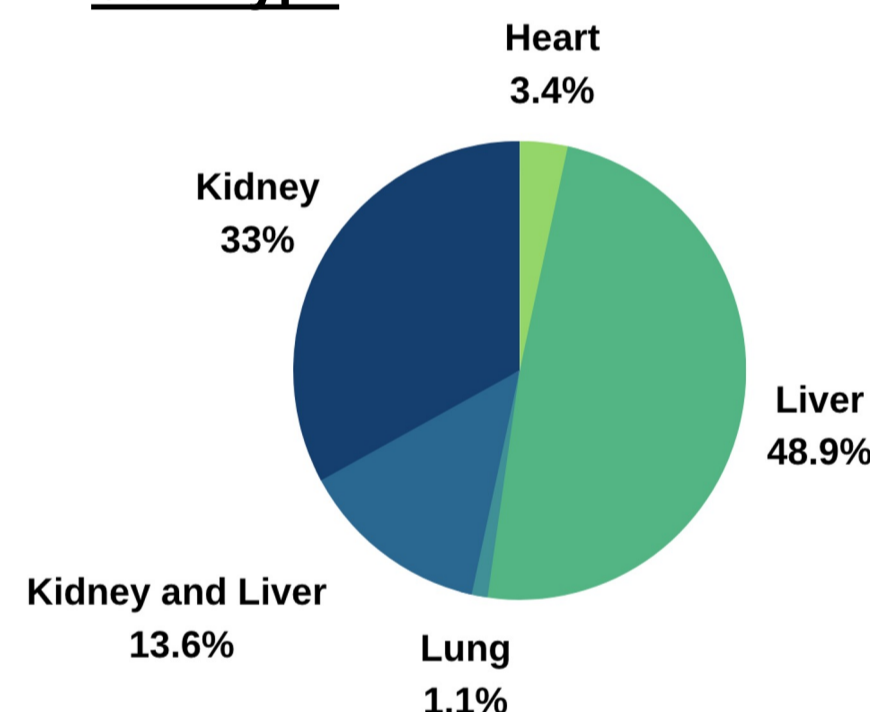


Table 1 - Patient Records

Average Follow-Ups Per Patient	1.8 visits (± 1.1 visits)
Mean Age at SOT	55.0 years (± 11.7 years)
Mean Time Since SOT at Follow-Up	3.9 years (± 4.1 years)

Table 2 - Association Between Persistent Psoriasis And:

	Relative Frequency	P-Value
20+ year psoriasis history before SOT	18 (20.5%)	0.00002
Liver transplant	43 (48.9%)	0.0006
Tacrolimus exposure	48 (97.9%)	0.005
Age at follow-up	N/A	0.41
Age at SOT	N/A	0.33

## CONCLUSIONS

- Our study demonstrated that the length of psoriasis diagnosis before SOT, type of SOT, and exposure to oral tacrolimus are all significantly and independently associated with persistent psoriasis after SOT.
- Interestingly, persistent psoriasis was not associated with either age at SOT or time since SOT at follow-up.

## LIMITATIONS

- Our results are limited by a relatively homogenous patient sample lacking in female and non-white representation.
- Our sample size is small due to the rarity of psoriasis and SOT diagnoses in the same patients.

## IMPLICATIONS

- Our findings emphasize the need for additional research into the pathophysiology of psoriasis in SOT recipients.
- Future studies could evaluate whether this phenomenon exists in other inflammatory skin conditions like atopic dermatitis.