Prevention of cardiovascular disease and mortality in patients with psoriasis or psoriatic arthritis (CP3) study: Preliminary results

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## Background

Patients with psoriasis have an increased risk for cardiovascular disease (CVD) yet traditional CVD risk factors are under-identified and undertreated, resulting in preventable morbidity and mortality $<10 \%$ of psoriasis patients (age $\geq 40$ ) seen by a dermatologist in the US get screened for blood pressure, cholesterol and blood glucose The 2018 ACC/AHA and the 2019 AAD/NPF guidelines emphasize the importance of early screening for CVD risk factors, early intervention in the form of statins, and patient education on risk estimation
CP3 is a pragmatic study that aims to lower risk of CVD in patients with psoriatic disease by narrowing the practice gap for detection and management of CV risk factors. Here we present the results of a pilot study.

## Methods

Study design: Multicenter, single arm, prospective cohort study that is embedded into routine practice

Study population: 85 patients recruited from 12 providers at 4 academic and private dermatology or rheumatology sites in the U.S. between April 2022 and September 2022

Entry criteria: Aged 40-75, being seen by a dermatologist or rheumatologist in routine care for the diagnosis of psoriatic disease, not taking a statin, not managed for diabetes with pharmacotherapy, no known history of CVD
Intervention: A centralized care coordinator who assessed CVD risk for patients using the 2018 ACC ASCVD calculator, provided education on therapeutic lifestyle changes and/or medication management to patients, and connected patients back to their primary care providers Main outcomes: Feasibility, Acceptability, Effectiveness (exploratory) Statistical Methods: Descriptive statistics, Qualitative Interviews

## Conclusions

73 (86\%) participants indicated CC model as acceptable and feasible 21 (25\%) patients had newly identified, previously undiagnosed, elevated CVD risk, despite medical care in proactive specialty centers Early exploratory effectiveness results indicate successful reduction in predicted CV risk in patients who adopted recommendations for statins 520 patient, 20 site study to launch May 2023

Figure 1. Care Coordination Model Schema
Screening + Education Risk Management (Analysis Set)


| Results |  |  |  |
| :---: | :---: | :---: | :---: |
| Table 1a. Demographics |  | Table 1b. Medical History |  |
| Variable | $\mathrm{n}=85$ | Variable | $\mathrm{n}=85$ |
| Age, mean, years | 54.44 | Current or Former | 41 (48\%) |
| BMI, mean, $\mathrm{kg} / \mathrm{m}^{2}$ | 30.16 | Smoker, n (\%) |  |
| Female, n (\%) | 46 (54\%) | Depression, n (\%) | 25 (29\%) |
| White, n (\%) | 78 (92\%) | History of PsA, n (\%) | 63 (74\%) |
| Dermatology patients, n (\%) | 43 (51\%) | On a biologic | 67 (79\%) |
| Table 1c. Psoriatic Disease Activity |  |  |  |
| Variable |  | Value |  |
| PGA, mean ( $\mathrm{n}=69$ ) |  | 0.96 |  |
| BSA, mean ( $\mathrm{n}=79$ ) |  | 1.22 |  |
| DLQI, mean ( $\mathrm{n}=83$ ) |  | 3.52 |  |
| EQ5D - VAS, mean ( $\mathrm{n}=79$ ) |  | 71.29 |  |
| PSAID, mean (Rheum patients only, $n=42$ ) |  | 3.65 |  |

Table 1d. Cardiovascular Screening

| Variable | Males $(\mathrm{n}=39)$ | Females $(\mathrm{n}=46)$ |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Total cholesterol $(\mathrm{mg} / \mathrm{dL})$, mean | 198 | 206 |  |  |  |
| HDL $(\mathrm{mg} / \mathrm{dL})$, mean | 52 | 60 |  |  |  |
| LDL $(\mathrm{mg} / \mathrm{dL})$, mean | 122 | 124 |  |  |  |
| HbA1c (\%), mean | 5.49 | 5.49 |  |  |  |
| Average at-home BP (mm Hg), mean | $122 / 77$ | $120 / 78$ |  |  |  |
| Variable |  |  |  | Derm $(\mathrm{n}=32)$ | Rheum $(\mathrm{n}=35)$ |
| hsCRP $(\mathrm{mg} / \mathrm{L})$, mean | 3.24 | 4.07 |  |  |  |

Table 2. Outcome - Acceptability and Feasibility

| Variable |  |
| :--- | :---: |
| Indicated CC model is acceptable, $\mathrm{n}(\%, \mathrm{n}=85)$ | $73(86 \%)$ |
| Indicated CC model is feasible, $\mathrm{n}(\%, \mathrm{n}=85)$ | $73(86 \%)$ |
| At-risk patients that indicated CC model is feasible, $\mathrm{n}(\%, \mathrm{n}=21)$ | $20(95 \%)$ |
| Variable | Baseline $(\mathrm{n}=85)$ |
| End of Study ( $\mathrm{n}=21$ ) |  |
| Got lipid labs drawn, $\mathrm{n}(\%)$ | $78(92 \%)$ |
| Did at-home BP recordings, $\mathrm{n}(\%)$ | $71(84 \%)$ |
| Met with the care coordinator, $\mathrm{n}(\%)$ | $74(87 \%)$ |

Table 3. Cardiovascular Risk and Management

| Variable | Value |
| :--- | :---: |
| Risk score, mean, $\%(n=70)$ | 4.86 |
| 10 -year risk $\geq 5 \%, n(\%, n=85)$ | $21(25 \%)$ |
| Statins recommended, $n(\%, n=85)$ | $21(25 \%)$ |
| BP medication recommended, $n(\%, n=85)$ | $28(33 \%)$ |

Table 4. Effectiveness (Secondary Exploratory Endpoint)

| Variable | Mean | P-Value |
| :--- | :---: | :---: |
| $\Delta \mathrm{SBP}(\mathrm{mm} \mathrm{Hg}, \mathrm{n}=16)$ | 2.7 | 0.3 |
| $\Delta \mathrm{DBP}(\mathrm{mm} \mathrm{Hg}, \mathrm{n}=16)$ | -0.4 | 0.8 |
| $\Delta$ Total Cholesterol $(\mathrm{mg} / \mathrm{dL}, \mathrm{n}=16)$ | -15.0 | 0.1 |
| $\Delta \mathrm{HDL}(\mathrm{mg} / \mathrm{dL}, \mathrm{n}=16)$ | -0.5 | 0.7 |
| $\Delta \mathrm{LDL}(\mathrm{mg} / \mathrm{dL}, \mathrm{n}=16)$ | -14.9 | 0.1 |
| $\Delta$ Risk Score $(\%, \mathrm{n}=15)$ | -0.1 | 0.9 |

Figure 2. Patient Qualitative Feedback
"I had never heard about the relationship between heart disease and psoriasis. So yeah, I was a little surprised to hear about that but also kind of relieved that there is this support and this focus in order to sort of help people manage this"

