EDITORIAL

Psoriasis and Cardiovascular Disease—An Ounce of Prevention Is Worth a Pound of Cure

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Pivotal epidemiologic studies identified modifiable cardiovascular (CV) risk factors such as dyslipidemia, smoking, diabetes, and hypertension as comorbidities associated with atherothrombosis.[1] Many of these risk factors have emerged as therapeutic targets to prevent the development and progression of cardiovascular disease (CVD). Additional risk factors have also been recognized, including unresolved inflammation and immune dysregulation.[2] Psoriasis and psoriatic arthritis exemplify the intersection of inflammation, immune dysregulation, and accelerated CVD. In addition to having a higher prevalence of modifiable CVD risk factors,[3] individuals with psoriatic disease are at substantially higher risk for myocardial infarction, and this risk is increased with increasing severity of psoriatic disease.[3,4]

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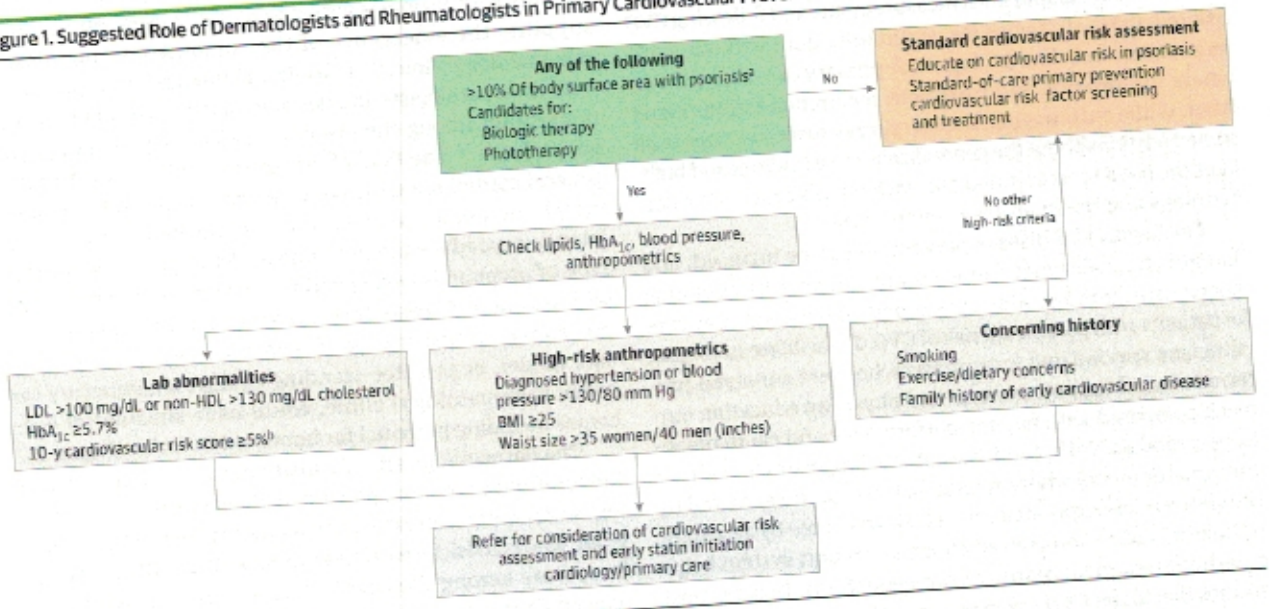
In primary CVD prevention, modifiable CVD risk factors, along with demographic characteristics, are incorporated into the calculated risk of a clinical CV event. A statin is recommended if CVD risk is above a certain threshold and additional CVD risk-enhancing conditions (including chronic inflammatory conditions such as psoriasis) are present.[5] In those individuals without hyperlipidemia who have underlying inflammation, statin therapy lowers CVD risk by approximately 40%.[6] A pilot randomized clinical trial[7] of 30 patients with moderate psoriasis and a median LDL cholesterol level of 110 mg/dL found that atorvastatin 40 mg daily for 2 weeks significantly decreased vascular inflammation. Lipid-lowering therapy is a foundational aspect of cardiovascular prevention[1] yet less than half of all patients who are eligible for statin therapy are actually taking them[8] Among those eligible patients who are not receiving a statin treatment, 59% report never being offered, 10% declined, and 31% discontinued therapy, highlighting the multiple barriers toward effective implementation of this life-saving therapy.[9]

Despite the well-described association between psoriasis and CVD, only 35% of patients with psoriasis diagnosed with hyperlipidemia are adequately treated with statin therapy.[10,11] For many of these patients, their dermatologist or rheumatologist may be their only source of contact with

Figure 1. Suggested Role of Dermatologists and Rheumatologists in Primary Cardiovascular Prevention in Patients With Psoriasis



BMI indicates body mass index (calculated as weight in kilograms divided by height in meters squared); HbA_{1c}, hemoglobin A_{1c} (to convert HbA_{1c} to proportion of total hemoglobin, multiply by 0.01); HDL, high-density lipoprotein; LDL, low-density lipoprotein.

[a] Includes those with a history of greater than 10% body surface area of psoriasis.

[b] Assessed by the American College of Cardiology/American Heart Association pooled cohort equation.

Figure 2. Multidisciplinary Approach to Cardiovascular Disease Risk Reduction in Patients With Psoriasis

the health care system. In this issue of *JAMA Dermatology*, Barbieri et al[12] report the results of a survey designed to assess patient and clinician receptiveness to identify, discuss, and potentially treat CVD risk with statins, in addition to implementation strategies. Dermatologists and rheumatologists registered with major medical societies who participate in the care of patients with psoriasis and patients listed with the National Psoriasis Foundation (NPF) were queried via email.

Overall, the survey response rates were 5.2% for dermatologists, 9.6% for patients with psoriasis, 7.9% for patients with psoriatic arthritis, and only 27 rheumatologists responded. While 127 of 183 dermatologists (69.3%) who responded indicated a willingness to screen for CVD risk, only 66 (36.1%) agreed that prescribing a statin when clinically indicated was feasible (doable, according to survey instrument). Among 160 patients with psoriasis and 162 patients with psoriatic arthritis who responded to the survey, 75.6% of patients with psoriasis and 89.5% of patients with psoriatic arthritis expressed an interest in education from their dermatologist and/or rheumatologist about their risk of heart disease. This interest included obtaining lipid level measurements and following CVD risk reduction strategies (eg, statin initiation) without a difference between dermatologists or primary care clinicians on where information and treatment recommendations came from. While encouraging, the low survey response rates raise some questions about the generalizability of findings and highlight the need for continued outreach on this topic to the dermatology and rheumatology communities.

Cardiovascular disease prevention can be nuanced, and Barbieri and colleagues[12] touch on this nuance by exploring mechanisms through which to support clinicians as they care for patients with psoriasis at risk of CVD. To facilitate statin use, clinicians specializing in psoriasis who were surveyed preferred clinical support systems and physician education outreach compared with pay-for-performance and comparison-to-peer models. To that end, the authors propose a clinical care coordinator model whereby data on CVD risk are gathered by the clinician, incorporated into a CVD risk score by a care coordinator, and a protocolized clinician support system helps determine treatment (statin) recommendations. To date, most studies that target CVD risk in psoriasis focus on targeting psoriatic inflammation.[3] To our knowledge, few studies explore strategies to improve modifiable CVD risk factor control with pharmacologic therapy[3] and the findings of Barbieri et al[12] underscore the barriers and highlight opportunities for CV care improvement and need for education at both the patient and clinician levels.

Statins are inexpensive, effective, and safe. However, misconceptions about this class of drug remain. Patient and clinician hesitance to take or prescribe statins are not infrequent, even in light of randomized clinical trial data showing robust benefit and adverse event profiles similar to placebo (eg, statin-associated muscle symptoms).[13] Notably, many patients with psoriatic disease are at risk for or have cardiometabolic conditions, and CVD risk reduction in patients with psoriasis should expand beyond lipid management to include blood pressure, glucose lowering, obesity management, and antiplatelet therapy. It is almost impossible to address all of these concepts in a single visit, especially when one also has to address skin and joint manifestations.

Thus, several different modes of CV care can and should be encouraged depending on the resources available. A patient with psoriasis is considered at higher CVD risk when requiring biologic therapy or phototherapy or having more than 10% body surface area involvement of psoriasis.[14] Before biologic initiation, American Academy of Dermatology (AAD)/NPF guidelines already recommend (among others) certain laboratory assessments.[15] Cardiometabolic screening (blood pressure, hemoglobin A_{1c}, lipids, body mass index, and calculation of a 10-year CVD risk score) is already an AAD/NPF recommendation[14] and can be integrated into this visit with subsequent referral and recommendations dependent on predefined laboratory and CVD risk score thresholds (**Figure 1**). This approach is supported by the findings of Barbieri and colleagues,[12] whereby dermatologists expressed a willingness to screen and even prescribe statins if a randomized clinical trial in psoriasis shows benefit.

Recognizing the value of multidisciplinary care in patients with psoriasis with extracutaneous manifestations supports the emergence of the combined dermatology-rheumatology clinic.[16] Such clinics integrate the expertise of both rheumatologists and dermatologists and enhance communication among clinicians and earlier diagnosis of psoriatic arthritis.[16] The field of preventive cardiology integrates general cardiology with exercise and nutrition, lipidology, metabolic health, obesity and weight management, all intended to reduce the risk of heart disease and stroke. This type of program is well suited to the population of patients with psoriatic disease. Incorporation and partnership of a preventive cardiologist into the dermatology-rheumatology care model, or as a free-standing cardio-inflammatory (or cardiorheumatology) clinic, could have substantial outcomes including potential for improved CVD risk (**Figure 2**).

The dermatology and rheumatology communities are at the forefront of treating patients with psoriasis and promoting awareness and research to explain and treat CVD risk in this group who is at risk for early heart disease. The AAD/NPF guidelines were among the first to formally recognize the enhanced CVD risk of patients with psoriasis, with major CV guidelines following shortly thereafter.[14] Moving the needle forward includes refining and developing modifiable CVD risk reduction strategies for patients with psoriasis, and collaboration between the fields of dermatology, rheumatology, and cardiology is key.

ARTICLE INFORMATION

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