SUPPLEMENTAL MATERIALS:

Psoriasis study inclusion/exclusion criteria

Patients with plaque psoriasis between the ages of 18-70 were included in the study. Patients were excluded if they had any comorbid condition known to promote cardiovascular disease or systemic inflammation, such as known myocardial infarction, stroke, peripheral vascular disease, uncontrolled hypertension, internal malignancy within 5 years, human immunodeficiency virus, active infection within the past 72 hours of baseline, or major surgery within 3 months.

Measurement of adiposity

Adiposity quantification was obtained using the CT component of the FDG PET/CT scans acquired for the purpose of vascular inflammation quantification using the same protocol described in the measurement of vascular inflammation section. Abdominal adiposity was quantified between the caudal end of the sternum and the cranial portion of the pubic symphysis, of which slices 50 to 150 were used in data analysis and averaged to get the volume per slice in the CT scan (1).

Visceral and subcutaneous adiposity was quantified using a fully automated software that employs a region-growing and active contour model algorithm on each designated CT slice. The algorithm consists of five components: body masking, noise reduction, adipose tissue labeling, visceral and subcutaneous adipose tissue separation, and quantification as outlined in Summers et al. (1). Once the body mask was created, an anisotropic diffusion filter was used to reduce noise, and voxels between -274 and -49 Hounsfield units were labeled as adipose tissue. An active contour model was applied to generate the internal contour that separates visceral and subcutaneous adipose tissues. Visceral adipose volume was then defined as the volume (cubic centimeters) of all adipose tissue voxels inside of the internal contour (1), and the rest of adipose volume was defined as subcutaneous adipose volume. Errors in the configuration of internal or external ROIs were screened and manually corrected by trained research fellows.

Covariates

Relevant medical history including cardiovascular risk factors, hypertension history, diabetes, hyperlipidemia, smoking, alcohol, age, and sex were collected from all study participants enrolled in our protocol. All patients underwent clinical, laboratory, and imaging evaluation. A dedicated study healthcare professional confirmed the onset, duration of psoriasis, and assessed psoriasis severity using the psoriasis area severity index (PASI) score. Psoriasis area severity index (PASI) score combines the severity of lesions and the area affected into a single score, considering erythema, induration and desquamation within each lesion. All patients underwent blood draws to assess lipid levels including total, HDL, and LDL cholesterol, glucose, insulin, and high-sensitivity C-reactive protein levels. Systemic/biologic treatment was defined as one of the following: methotrexate, anti-Tumor necrosis factor, anti-interleukin 12/23, or anti-interleukin 17.

Baseline treatment for the cohort was defined by at least four months of any of the following therapies prior to study enrollment: systemic or biologic therapy (steroids, methotrexate, adalimumab, etanercept, and ustekinumab), statins, psoralen plus ultraviolet A (PUVA) or ultraviolet B (UVB), and topical treatments. Patients were asked to complete survey-based questionnaires regarding smoking, previous cardiovascular disease, family history of cardiovascular disease, and previous established diagnoses of hypertension and diabetes. Patient responses were then investigated and confirmed by interview with the physician. Cardiovascular disease included acute coronary syndrome comprising both MI and unstable angina pectoris, angina pectoris, cerebrovascular event, transient ischemic attack, peripheral vascular disease and revascularization procedures that comprised of coronary artery bypass grafting and percutaneous interventional procedures. Diabetes and hypertension were defined either by an established diagnosis or by use of glucose lowering and blood pressure lowering drugs, respectively.

References:

1. Summers RM, Liu J, Sussman DL et al. Association between visceral adiposity and colorectal polyps on CT colonography. AJR Am J Roentgenol 2012;199:48-57.

Supplementary Table 1: Characteristics of psoriasis patients who improved their skin disease severity at 1-year.

Variable	Baseline (N=78)	1-year (N=78)	p-value
Demographic and Clinical Characteristics			
Age, years	50.3 ± 12.7	51.5 ± 12.7	-
Males	50 (62)	50 (62)	-
Caucasian	64 (79)	64 (79)	1.00
Hypertension	22 (27)	22 (27)	1.00
Hyperlipidemia	35 (43)	40 (53)	0.06
Type-2 Diabetes	7 (9)	7 (9)	1.00
Body Mass Index(BMI)	29.6 ± 6.5	29.4 ± 6.4	0.15
Waist-to-hip Ratio(WHR)	0.97 (0.91-1.02)	0.98 (0.92-1.01)	0.66
Current Smoker	9 (11)	4 (5)	**0.03**
Statin Use	24 (30)	24 (30)	1.00
Clinical and Lab Values			
Total Cholesterol, mg/dl	183.2 ± 35.9	180.1 ± 34.5	0.19
HDL Cholesterol, mg/dl	54.8 ± 16.0	55.1 ± 16.0	0.37

LDL Cholesterol, mg/dl	104.3 ± 28.2	99.7 ± 30.3	0.07
Triglycerides, mg/dl	124.5 ± 79.2	128.1 ± 64.9	0.32
Framingham Risk Score	2 (1-6)	2 (1-5)	0.88

Values reported in the table as Mean ± SD or Median (IQR) for continuous data and N (%) for categorical data.

P-value less than 0.05 was deemed significant.