

Closely Monitor Heart Health in Psoriasis Patients

Studies show elevated MI risk among patients with psoriasis; association decreases with age.

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Contributing Writer

PHILADELPHIA — There is mounting evidence that patients with psoriasis are at increased risk of cardiovascular disease, according to several large epidemiologic surveys presented at the annual meeting of the Society for Investigative Dermatology.

Over the last decade, several studies have shown that people with psoriasis often have comorbidities including depression, hypertension, and diabetes. The new studies confirm these earlier findings, and indicate clearly that psoriasis patients are at increased risk for myocardial infarction.

The big question now is whether the skin condition itself is an independent risk factor or if the increase in heart disease is because of adverse effects from psoriasis therapies or to increased likelihood of smoking, depression, or overweight, which are also more prevalent in psoriatic patients than in the general population. These questions will require further research, but in the meantime, the clinical

message is clear: Physicians need to pay closer attention to the cardiovascular health of this population.

The largest study of the psoriasis-heart disease link comes from epidemiologists at Centocor Inc., the pharmaceutical company that manufactures infliximab and other immune-system modulating drugs.

The researchers analyzed incidence of cardiovascular events and presence of heart disease risk factors among psoriatic patients and healthy age-matched control subjects from two massive databases. The first ("Database A") was a proprietary database consisting of more than 6 million active or retired employees at Fortune 500 corporations, and their covered dependents; the second ("Database B") was a health insurance claims database comprising more than 11 million people.

By using ICD-9 codes, the researchers were able to select out all patients with psoriasis, as well as all who had atherosclerosis, diabetes, and hypertension. They used a 4:1 match between control subjects and those with psoriasis during the year

2001-2002. The findings were presented at the meeting by Dr. Y. Wu from the Centocor team.

From Database A, there were 23,897 patients with psoriasis, which were compared with 95,558 age- and gender-matched control subjects. Those with psoriasis had a 24% increased odds ratio of having atherosclerosis, a 12% increased odds ratio for hypertension, and a 17% increased odds ratio for type 2 diabetes.

From Database B, they identified 30,558 psoriasis patients and compared them with 121,469 age- and gender-matched control subjects. In this data set, the psoriatic individuals had a 34% increased odds ratio of having atherosclerosis, an 18% increased odds for hypertension, and a 22% increased likelihood of diabetes.

"These are very significant data showing increased prevalence rates for cardiovascular comorbidities and risk factors. The risk was statistically significant in both databases, and the findings are in line with earlier data. We really need to understand the underlying biological mechanisms," Dr. Wu said. In response to a question from the audience, he acknowledged that the data had not been controlled for smoking, which given its increased prevalence among psoriatic patients, could in part explain the increased cardiovascular risk. "This is something we really need to do."

In a separate presentation, Dr. Joel Gelfand of the department of dermatology, University of Pennsylvania, Philadelphia, reviewed the data from their analysis of psoriasis and heart disease in the General Practice Research Database (GPRD), which contains electronic medical records information from more than 9 million people in the United Kingdom, during 1987-2002. They categorized the psoriasis patients who received no systemic therapy as mild (127,139) and those who received at least one systemic drug therapy or psoralen plus ultraviolet A as severe (3,837), and compared them with up to 556,995 age- and gender-matched control subjects.

The findings in the Penn study were similar to those in the Centocor study, but in the Penn analysis, heart disease risk correlated clearly with severity of psoriasis. There were 11,194 myocardial infarctions in the control group, for an incidence of 3.58 per 1,000 person-years. Among the 127,139 with mild psoriasis, there were 2,319 myocardial infarctions, for an incidence rate of 4.04 per 1,000 person-years. In the roughly 3,400 with severe psoriasis, there were 112 MIs, or 5.13 per 1,000 person-years.

The data show that those with psoriasis were more likely to have had a prior history of MI (1.4% in the control group, 1.8% in the mild group, and 2.0% in the severe psoriasis group).

Type 2 diabetes, hyperlipidemia, and hypertension all tracked with psoriasis, and the incidence of all of these was higher in the severe than in the mild psoriasis patients.

Dr. Gelfand's group did assess smoking

and body mass index, and found that while the latter was relatively comparable between controls and psoriasis patients (mean BMI of 25.27 in the controls, 25.77 in the patients with mild psoriasis, and 26.55 in the patients with severe psoriasis), smoking was clearly more common among the psoriasis patients (21% of the controls were smokers, versus 28% of the mild psoriasis patients, and 30% of the severe psoriasis patients).

Still, according to Dr. Gelfand, psoriasis does seem to be an independent risk factor for heart disease. Using a Cox proportional hazard model, he found that mild psoriasis itself carries a hazard ratio of 1.54 and severe psoriasis confers an alarming hazard ratio of 7.04. By way of comparison, hyperlipidemia carries a hazard ratio of 3.08 for the patients with mild psoriasis, and 3.18 for the patients with severe psoriasis. Hypertension carries a hazard ratio of 1.11 for patients with mild psoriasis and 1.12 for those with severe disease.

Dr. Gelfand underscored a noteworthy inverse age trend in the associated risk of MI. Patients with severe psoriasis in their 20s had a hazard ratio of 4 for myocardial infarction. The risk showed a steady downward trend with age; for those in their 60s, severe psoriasis had a hazard ratio of around 1.5. Mild psoriasis showed the same hazard ratio curve, though the amplitude was lower across the age spectrum.

In a separate poster presentation, Dr. Andrea Neimann, a member of Dr. Gelfand's research team, calculated the odds ratios for various cardiovascular risk factors in the psoriatic population in the GPRD.

Patients with mild psoriasis were 27% more likely than were controls to have diabetes, 16% more likely to have hypertension, 28% more likely to have dyslipidemia, 40% more likely to be smokers, and 29% more likely to have a BMI greater than 30. Those with severe psoriasis were 86% more likely than controls to have diabetes, 25% more likely to have hypertension, 31% more likely to be dyslipidemic, 31% more likely to be smokers, and 84% more likely to be obese.

"Diabetes, smoking, and BMI are independently associated with mild and severe psoriasis, and the association between diabetes and BMI is stronger in patients with severe psoriasis than with mild psoriasis," Dr. Neimann reported.

Studies are needed to determine the extent to which the increased heart disease burden is attributable to the psoriasis disease process itself, or whether it can be fully explained by secondary risk factors such as smoking, overeating, depression, and other psychosocial factors.

According to Dr. Gelfand, there's certainly a plausible reason to believe the skin disease itself is playing a major role. "Psoriasis is a Th-1 mediated inflammatory disease, and increasing evidence has linked chronic Th-1 inflammation with atherosclerosis and MI."

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