Initially Minor Diabetic Foot Burns Can Snowball

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — Patients with diabetes have an increased risk for foot burns and once a burn occurs, the morbidity and mortality are quite high, Dr. David Greenhalgh said at the annual meeting of the American Burn Association.

A patient might sustain a foot burn without being aware of the injury because of impaired sensation in the feet. Insensate feet lead to prolonged exposure and deeper burns. Walking on hot surfaces, soaking in hot water, and even car heaters can cause foot burns.

"You don't feel the pain after soaking your feet for a half-hour, and that leads to the problem," he said. "This is a duration-of-contact problem."

The neurovascular changes associated with diabetes might also lead to impaired burn wound healing. Impaired healing leads to higher graft loss and an increased risk of amputation, said Dr. Greenhalgh, professor and chief of burn surgery, University of California Davis Medical Center, Sacramento.

Dr. Greenhalgh described his own experiences treating initially minor foot burn cases, including a patient with insensate feet who had been admitted for walking on hot asphalt, which resulted in transmetatarsal and below-knee amputations.

Another patient with insensate feet returned home from a walk over hot rocks at a river bed to discover blood oozing from his feet. After lengthy treatment, four of the patient's toes were amputated.

"This is not only a disease that leaves a scar, but a disease that won't heal," he said. "These are high-risk patients and once you have a wound, it can lead to a cascade of events.

"One minute you've got a patient with ulcers between the toes, the next you're sticking a hemostat up their foot draining pus out of their plantar, and then you're doing a below-the-knee amputation," said Dr. Greenhalgh.

COURTESY DR. DAVID GREENHALGH

Most foot burns in diabetic patients result from insensate feet.

He reported on a chart review of 27 patients, mean age 52 years, with diabetes who sustained foot burns from January 2000 to December 2005. Of these, 22 (81%) had burns resulting from insensate feet. In 16 patients, including 15 with insensate burns, the patients were unaware of their feet having been injured, he said.

Burns were caused by soaking feet in hot water (7), putting feet near a heater or a radiator (6), walking on a hot surface (2), having contact with a heating pad (1), and being exposed to other sources (11).

Most (93%) of the patients were male, 16 were taking insulin, and 6 were diagnosed as having insulin-dependent diabetes.

Mean burn size was 4.7% of total body surface area (range 0.5%-15%), and 69% were full-thickness burns. Despite the small burn size, the mean length of hospital stay was 10 days (range 1-25) and 11 days for the insensate burns.

Skin grafting was required in 14 patients (52%). Five patients needed to be regrafted at least once, and one patient required four grafting procedures. Six patients required readmission, and three patients underwent amputations. There were 16 complications, with 11 episodes of infections, mostly cellulitis. Three patients died.

"All diabetic patients should be taught about the risk of foot burns," Dr. Greenhalgh concluded. "All patients with loss of sensation should never be exposed to heated water, heating pads, or heaters, or walk outside with bare feet." ■

Severe Psoriasis Appears to Be Potent Risk Factor for Stroke

BY BRUCE JANCIN
Denver Bureau

KYOTO, JAPAN — Severe psoriasis appears to be a potent risk factor for stroke independent of the traditional stroke risk factors, Dr. Rahat S. Azfar said at an international investigative dermatology meeting.

She presented a case-control study drawn from the U.K. General Practice Research Database (GPRD) in which she found severe psoriasis was associated with an excess stroke risk amounting to one additional stroke per 530 patients per year attributable to the immune-mediated skin disease, beyond background levels of traditional stroke risk factors.

"Given the prevalence of psoriasis worldwide, these numbers carry a potentially significant impact on public health," observed Dr. Azfar of the University of Pennsylvania, Philadelphia.

Psoriasis affects roughly 2.5% of the population worldwide, including an estimated 4.5 million U.S. adults. Five percent have severe disease as defined by a need for systemic therapy or phototherapy.

She and her coinvestigators had previously shown psoriasis to be an independent risk factor for acute MI, also using the GPRD. But the relationship between psoriasis and stroke had never before been studied.

The GPRD is an extensive electronic medical record including more than 9 million U.K. patients under the care of general practitioners/family physicians in 450 primary care practices.

Dr. Azfar reported on 129,143 patients with mild psoriasis in 1987-2002 and 496,666 contemporaneous controls without psoriasis, along with 3,603 patients with severe psoriasis and 14,330 separate controls. The mean follow-up was about 4 years.

As found in other studies, patients with severe psoriasis had higher rates of obesity and smoking than did controls, while rates of these and other traditional cardiovascular risk factors were similar in patients with mild psoriasis and in controls.

After adjustment for the major stroke risk factors—diabetes, hyperlipidemia, smoking, obesity, hypertension, age, and gender—patients with mild psoriasis were found to have a statistically significant 6% per year increased relative risk of stroke. In contrast, the stroke risk in patients with severe psoriasis was increased by 43% per year, compared with matched controls.

The attributable risk of stroke in patients with mild psoriasis was 2.4 strokes per 10,000 person-years, and with severe psoriasis it was 1.9 strokes per 1,000 person-years.

A caveat: Data audit suggested up to 15% of patients categorized in the GPRD as having mild psoriasis may actually have had moderate disease. If so, truly mild psoriasis may not be associated with any significant excess in strokes, according to Dr. Azfar.

The working hypothesis is that the link between psoriasis and stroke—and MI as well—lies in Th1/Th17-mediated systemic inflammation, a prominent shared feature, she explained at the meeting, sponsored by the European Society for Dermatological Research, the Japanese Society for Investigative Dermatology, and the Society for Investigative Dermatology.

Given the prevalence of psoriasis worldwide—2.5% of the world's population—these numbers carry a potentially significant impact on public health.

To examine the possibility that the excess stroke risk seen in severe psoriasis was a function of toxicities of treatments for the disease rather than being intrinsic to severe psoriasis itself, the investigators reanalyzed the data after excluding methotrexate users or restricting the analysis to patients treated with oral retinoids. It didn't have any significant impact upon the results. Neither did exclusion of psoriatic arthritis patients.

A German dermatologist in the audience questioned the reliability of psoriasis diagnoses in the GPRD. In his country, he added, general practitioners get it wrong at least 30% of the time.

Dr. Azfar replied that she and her coworkers have formally validated the ability of U.K. general practitioners to reliably diagnose the disease. In any event, severe psoriasis was typically diagnosed by a consultant dermatologist.

Elsewhere at the conference, Daniel B. Shin, Dr. Azfar's coinvestigator, presented an analysis of the rates of cardiovascular, cerebrovascular, and peripheral vascular disease in the same study population.

The rationale for this additional analysis was that MI and stroke are acute thrombotic events, and it would be informative to see if psoriasis is also associated with increased rates of chronic atherosclerotic diseases as reflected in the appropriate diagnostic codes, as well as procedure codes for coronary revascularization, carotid endarterectomy, and peripheral vascular intervention, said Mr. Shin.

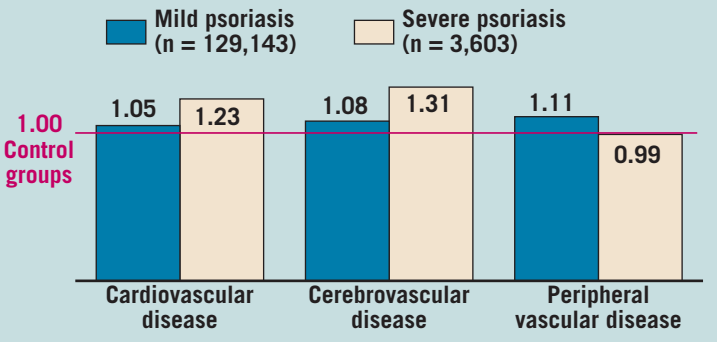
This indeed proved to be the case. As for stroke, the associated risks generally were greater with severe than with mild psoriasis, noted Mr. Shin, a medical student at the university. (See chart.)

There was, however, one glaring exception to the broad trend. Why the lack of association between severe psoriasis and increased peripheral vascular disease?

"I've asked some of my colleagues in cardiovascular medicine, and they think peripheral vascular disease is significantly underdiagnosed," explained Dr. Joel M. Gelfand, senior investigator in the GPRD studies and medical director of the clinical studies unit in the department of dermatology at the university.

The ongoing GPRD studies are partially funded by an unrestricted grant from Centocor. The investigators reported having no conflicts of interest. ■

Odds Ratios of Atherosclerotic Diseases In Psoriasis Patients at 4-Year Follow-Up



Notes: Odds ratios adjusted for traditional factors. There were 496,666 controls for mild psoriasis and 14,330 controls for severe psoriasis.
Source: Mr. Shin

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