

# Consider Neurogenic Causes for Unexplained Itch

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AMELIA ISLAND, FLA. — Neurogenic sources should be considered in patients who have severe pruritus for which a cutaneous cause can't be found, Dr. Jeffrey D. Bernhard said at a symposium sponsored by the Dermatology Foundation.

In many of these cases, there is a nonspecific rash that is caused by the patients' repeated scratching rather than by the disease itself, which can lead to misdiagnosis.

"Patients who scratch a lot can end up with a nonspecific rash that may be eczematous in nature. Don't assume there isn't an underlying noncutaneous cause," said Dr. Bernhard, professor of medicine and physiology in the division of dermatology at the University of Massachusetts, Worcester.

Notalgia paresthetica and brachioradial pruritus are two examples of severe itches that arise in the peripheral nervous system rather than on the skin.

Localized pruritus of the midback, called notalgia paresthetica (NP), occurs in about



Localized pruritus of the midback occurs in about 10% of the population.

10% of the population. For most people, it's simply an occasional annoying itch. But in a small number of individuals, it manifests as a severe, constant pruritus on a patch of skin in one or both of the medial scapular borders that may be accompanied by numbness, tingling, formication, burning, hyperalgesia, and tenderness.

Associated findings also may include hyperesthesia, along with reductions in pinprick sensitivity, light-touch sensation, two-point discrimination, temperature sensitivity, and sweat response. Although NP does not ordinarily produce visible skin changes, there may be hyperpigmentation over the pruritic area and sometimes a "ragged spot" on a blouse or shirt, both caused by the patients' persistent scratching and/or rubbing.

The condition is believed to result from spinal nerve impingement. In a study of 43 NP patients with 61 lesions, 34 patients had vertebral pathology—including degenerative changes and herniated nucleus pulposus—on spinal radiography. In 28 of the 34, the changes were most prominent in the vertebrae that corresponded to a lesional dermatome (J. Am. Acad. Dermatol. 2005;52:1085-7).

The authors speculated that spinal pathologies that cannot easily be diagnosed radiographically, such as cervical fibrous bands or muscle spasms, also might contribute to NP. They urged physicians who are treating the neuromuscular problems in these patients to consider pruritus in the list of signs and symptoms of spinal disease.

Another study of 12 NP cases found dorsal arthrosis or spinal static disequilibrium on spinal x-ray in 9 patients. Symptoms improved in four of six patients who underwent spinal and paraspinal ultrasound or radiation physiotherapy. Those authors noted that capsaicin has been reported to relieve symptoms in some NP patients, but only transiently (J. Eur. Acad. Dermatol. Venereol. 1999;12:215-21).

NP is an uncomfortable condition, but brachioradial pruritus (BP) can be excruciating. Patients describe BP as a "horrendous itch" that has a "tingling, prickling, sometimes burning sensation." It also is

commonly associated with abnormal pinprick and temperature sensations. In contrast to NP, in which patients may scratch and rub to alleviate the itch, patients with BP sometimes actually gouge their forearms attempting to alleviate the sensation, Dr. Bernhard noted.

As with NP, evidence suggests that BP also arises from nerve compression or damage. In a retrospective study for which Dr. Bernhard was a coinvestigator, a chart review of 22 patients with BP

seen between 1993 and 2000 showed that in all 11 for whom cervical spine radiography had been performed, the cervical spine disease correlated with the location of the itching (J. Am. Acad. Dermatol. 2003;48:521-4).

In another study of seven consecutive BP patients, electrophysiologic studies of the median, ulnar, and radial nerves yielded abnormal responses diagnostic of cervical radiculopathy in four. One of those patients had polyneuropathy secondary to diabetes. Six of the seven reported sunlight as a trigger for their itch (J. Am. Acad. Dermatol. 2003;48:825-8).

Indeed, BP also has been named "solar pruritus" because of this curious sun-triggering phenomenon. One recent study attempted to determine whether BP was, in fact, caused by a nerve compression in the cervical spine or by prolonged exposure to sunlight. Skin biopsy specimens collected from itchy skin of 16 BP patients revealed cutaneous innervation visualized by antibodies against protein gene product 9.5 (general neuronal marker), by antibodies against calcitonin gene-related peptide (marker for thin sensory nerve fibers), and by antibodies against VR1-receptor (marker for capsaicin-sensitive nerve fibers).

Compared with controls, the BP patients had reductions of 23%-43% in various nerve fibers. Itching of the arms or shoul-



Patients who have brachioradial pruritus sometimes gouge their forearms to alleviate the sensation.

PHOTOS COURTESY DR. JEFFREY D. BERNHARD

ders was seasonal in all but two of the patients, occurring more often during August-December than during the rest of the year (J. Am. Acad. Dermatol. 2005;52:142-5).

"The temporal course of brachioradial pruritus and the [histologic] changes in the skin similar to those caused by ultraviolet light indicate that sunlight is an eliciting factor and that cervical spine disease can be a predisposing factor," the authors wrote.

Another itchy condition, anogenital pruritus, also may arise from nerve pathology. In a study of 18 men and 2 women (mean age 53 years) with "idiopathic" anogenital pruritus, degenerative changes in the lower spine were found on x-ray in 16, and lumbosacral radiculopathy confirmed by nerve conduction studies in 16. Paravertebral injections of triamcinolone and lidocaine reduced the degree of pruritus and sleep disturbance but were less effective in reducing other symptoms such as burning, tingling, and pain (Am. J. Acad. Dermatol. 2005;52:61-6).

Finally, there are many references to conditions such as "neurotic excoriation," "psychogenic pruritus," "senile pruritus," in the literature, all suggesting that the itch is in the patient's head. "You have to be careful about assuming people are crazy when they actually may have pathologic changes in the nervous system that are making them itch," Dr. Bernhard said. ■

## Genetic Markers Sought for Psoriasis, Comorbidity Links

BY NANCY WALSH  
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VIENNA — Patients with psoriasis are at a higher risk for comorbidities including arthritis, heart disease, diabetes, cancer, and hypertension than is the general population, according to new data presented by Dr. Wayne P. Gulliver at the 16th Congress of the European Academy of Dermatology and Venereology.

The Newfoundland and Labrador Centre for Health Information database contains health records for more than 3,200 patients with psoriasis from this genetically distinct founder population.

Analysis of data from this co-

hort is expected to advance understanding of the genetics and pathophysiology of complex diseases such as psoriasis, said Dr. Gulliver, chairman and medical director of a medical research organization in St. John's, Nfld.

Since the 1960s, it's been known that psoriasis patients are at risk for concomitant disease, with the first associations found to be gout and sarcoidosis. Studies in Sweden during the 1980s found associations with excess rates of viral infections, alcoholism, hypertension, pneumonia, cirrhosis, urticaria, and rheumatoid arthritis in men and women; with iritis and ankylosing spondylitis in men; and with lung cancer, diabetes,

obesity, myocardial infarction, and asthma in women (Dermatologia 1986;172:298-304).

German studies showed that diabetes, obesity, hypertension, and heart failure were overrepresented in psoriasis patients (J. Am. Acad. Dermatol. 1995;32:982-6).

More recently, studies have suggested a link between psoriasis and increased rates of metabolic syndrome and hyperlipidemia—as well as a resulting increase in cardiovascular risk, Dr. Gulliver wrote in a poster.

This observation has now been confirmed in the Newfoundland and Labrador psoriasis population, with heart disease being elevated in mild to moderate and severe

psoriasis patients, compared with the general population. Of 100 patients aged 50 years and older with mild to moderate psoriasis, 28% had heart disease, whereas 21% of 100 patients with severe psoriasis had heart disease; in the general population aged 30-64 years, heart disease rate was 17%.

Mortality also reflects the increased prevalence of these comorbidities, with 44.4% of the 169 reported deaths in psoriasis patients relating to cardiovascular disease, compared with 36.1% of deaths in the general population of Newfoundland and Labrador, noted Dr. Gulliver, who is also chairman of the dermatology division, Memorial University of

Newfoundland, St. John's.

Moreover, psoriasis patients in this cohort died about 10 years earlier than the general population. The mean age at death in men with psoriasis was 68.8 years, whereas the national average was 77.4 years. The mean age at death for women with psoriasis was 72.7 years, compared with 82.5 years in women in the general population.

Pharmacokinetic studies are ongoing, with certain genetic markers for psoriasis having recently been identified. If further analyses can identify genetic linkages between psoriasis and comorbidities, genetic screening could be used for early recognition, Dr. Gulliver noted. ■