

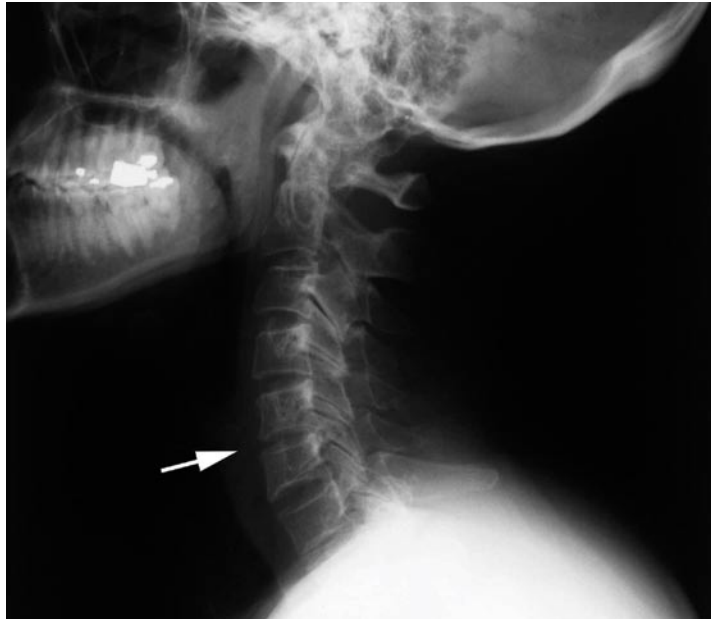
What Is Your Diagnosis?



A 64-year-old white woman presented to the dermatology clinic complaining of itching and burning on her right dorsal forearm that was exacerbated by sun exposure. Physical examination revealed mildly sun damaged skin on her arms but no other abnormalities. The patient's symptoms did not improve with application of topical steroids or sunscreens. She was noncompliant with regard to sun avoidance. A laboratory workup including a complete metabolic panel and an antinuclear antibody test showed that anti-Ro antibodies, anti-La antibodies, and urine porphyrins were within reference range. A cervical x-ray was obtained and revealed C5-6 disk space narrowing (arrow).

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The Diagnosis: Brachioradial Pruritus



Brachioradial pruritus (BRP) is an interesting condition because of its subjectively severe symptoms yet often benign physical presentation. It presents with localized pruritus, burning, stinging, paresthesia, or pain in the brachioradial areas, with possible extension to the upper back and occasionally the chest and neck.¹ Excoriation may be evident in the distribution of pruritic symptoms; otherwise, physical examination is unremarkable.

To date, the etiology of BRP remains controversial. Neurologic disease or sun-induced pathology are the 2 prevailing hypotheses. Cervical spinal cord or nerve root disease, most likely C5 through C8 spinal nerves, can produce neuropathic symptoms in the typical distribution of BRP. These effects result from impingement by spondylosis, foraminal stenosis, osteophytes, intervertebral disk space narrowing, cervical ribs, tumors, cervical fibrous bands, prior whiplash injuries, or muscle spasms secondary to repetitive microtrauma.^{1,2} In addition, cold application to the area by the patient to alleviate symptoms, known as the ice pack sign, is considered to be a pathognomonic feature of the disease and lends further support to the neurogenic theory.³ A study reported by Wallengren and Sundler⁴ proposed that sunlight is the eliciting factor of BRP and cervical spinal disease is a predisposing feature. They contended that the majority of their

patients with BRP exhibited seasonal exacerbations (in the spring and summer months) and have histopathologic features of photodermatitis.⁴ Along with the frequent photodistribution of BRP, these findings support the importance of UV radiation in the pathogenesis of disease. However, both neuropathic disease and chronic sun damage are likely to play a role.

The differential diagnosis of BRP includes photodrug reaction, photodermatitis, porphyria, notalgia paresthetica, and other neurocutaneous dermatoses. Therefore, in considering localized pruritus in the absence of or out of proportion to clinically evident cutaneous disease in the brachioradial areas, neuromuscular examination should be undertaken, including a careful history, physical examination, and appropriate radiology studies such as cervical x-ray or spinal magnetic resonance imaging.^{1,2,5}

The treatment of BRP includes management of the underlying neurologic disease and any superimposed chronic sun damage. Improvement has been reported with topical capsaicin, gabapentin, carbamazepine, cervical spine osteopathic manipulation, neck traction, acupuncture, and cervical rib resection.^{1,2,6} Neurology or neurosurgery consultation should be considered. Given the possibility of sunlight exacerbation, daily sunscreen and sun protection measures also should be recommended to the patient.¹

REFERENCES

1. Goodkin R, Wingard E, Bernhard JD. Brachioradial pruritus: cervical spine disease and neurogenic/neuropathic pruritus. *J Am Acad Dermatol.* 2003;48:521-524.
2. Savk E, Savk SO. On brachioradial pruritus and notalgia paresthetica. *J Am Acad Dermatol.* 2004;50:800-801.
3. Bernhard JD, Bordeaux JS. Medical pearl: the ice-pack sign in brachioradial pruritus. *J Am Acad Dermatol.* 2005;52:1073.
4. Wallengren J, Sundler F. Brachioradial pruritus is associated with a reduction in cutaneous innervation that normalizes during the symptom-free remissions. *J Am Acad Dermatol.* 2005;52:142-145.
5. Cohen AD, Masalha R, Medvedovsky E, et al. Brachioradial pruritus: a symptom of neuropathy. *J Am Acad Dermatol.* 2003;48:825-828.
6. Winhoven SM, Coulson IH, Bottomley WW. Brachioradial pruritus: response to treatment with gabapentin. *Br J Dermatol.* 2004;150:786-787.