

## PHOTODERMATITIS FROM GIANT HOGWEED

**CASE 1.** In 1993, a Portland man bought an interesting plant with pretty leaves in a one-gallon pot from a roadside plant sale. He planted it one overcast day in a shady spot in his yard. The following year, the plant shot up to 12 feet in height. While working in his yard, wearing just shorts, he brushed up against the leaves of the plant. The next day he developed severe itching, redness and watery blisters on both arms and legs; these symptoms worsened over the next several days. Hot showers increased the itching and caused the blisters to spread. Liquid from opened blisters also seemed to cause the condition to spread. Over the period of a week his skin became raw and infected. His dermatologist was not able to diagnose the problem, but prescribed an oral antihistamine that controlled the itching and helped dry out the blisters.

**Case 2.** Twelve kids in a Washington County Boy Scout troop and a number of adults went for a weekend campout in the woods along the Nehalem River (in Columbia County) in early spring 2000. There they found hundreds of unusual-looking plants with very large leaves. Six of the boys played among the plants and used the hardy stalks and leaf fronds to bat at one another. The clear sap from the plants felt cool on their skin. By Sunday afternoon, each of the 6 boys had developed large, painful blisters on his hands, legs, neck and every other point of contact with the leaves and stems. Physicians were unable to make a diagnosis. Local schools sent the boys home, worried that their condition might be contagious. The burning and blistering lasted for a week, and several of the children had scars that lasted for a year.

**Case 3.** In the summer of 2000, a woman was pulling weeds in the backyard of her southeast Portland home, when she brushed her leg against an unusual plant. The next day she devel-

oped a 2x5-inch blister on her thigh. The painful blister lasted for a week. It then turned dark purple, and the discoloration persists to this day. The following summer she found more of these unusual plants in her yard and began to remove them by hand. She developed inflammation and burning blisters on the medial aspect of both forearms; the skin reaction lasted more than a week. She discovered that the source of these plants was her elderly neighbor's yard, where she found more than 100 mature plants, some taller than her house.

### THE CULPRIT

The mystery plant (for those who missed the title of this issue) that caused each of the above reactions is the giant hogweed (*Heracleum mantegazzianum*).<sup>1-3</sup> This large plant was imported from Europe as a garden ornamental. Giant hogweed resembles the native cow parsnip. The main difference is scale—cow parsnip seldom exceeds 3 to 4 feet in height, while giant hogweed can reach a height of 15 feet.<sup>3</sup>



The clear, watery sap of the giant hogweed is highly toxic; it contains a glucoside called furocoumarin, a psoralen known to cause phytophotodermatitis.<sup>3-6</sup> The phototoxic reaction is the consequence of contact with the sap and subsequent exposure to sunlight; this is not an allergic mechanism.<sup>7</sup> All individuals exposed to the furocoumarin and then to sunlight are likely to be afflicted. The phototoxin content of the plant varies by season and the part of the plant<sup>8</sup>; this explains why someone could handle a specimen with impunity on one occasion and then suffer a serious rash the next time he comes in contact with it.

Adults get the toxic sap on their skin when clearing the plants by hand or using a cutting tool, without wearing proper protective garb. Children are exposed when they use the long, hollow stems for pea shooters, spy-glasses or swords.<sup>3</sup>

### SYMPTOMS AND DIAGNOSIS

The initial reaction is erythema within 24 hours after exposure and then blistering within another 24 hours. Itching, redness, heat, swelling, and large, painful blistering can last months. The toxin can also cause partial-thickness burns. Hyperpigmentation of the affected skin may be permanent. Recurrent dermatitis on affected areas has been reported.<sup>6-8</sup>

### TREATMENT

Physicians in England and Belgium report successful treatment of severe burn cases with daily dressings using silver sulfadiazine and non-steroidal anti-inflammatory drugs. For less severe cases, topical steroid ointments have helped.<sup>6</sup>

### WHENCE IT CAME

Giant hogweed was imported to the British Royal Botanic Gardens, but it "escaped" in the early 1900's.<sup>9</sup> Through the 1960's, gardening journals in England recommended planting giant



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hogweed as a showy exotic ornamental—until reports in the medical literature linked exposure to severe rash.<sup>4</sup> Unfortunately, giant hogweed has arrived in Oregon.

Giant hogweed has been sold in specialty nurseries as an exotic plant, and it can be found around homes and apartment buildings. The plant spreads quickly from the areas where it is intentionally planted. Its height helps to disperse the winged seeds, and it is now commonly found in ravines, vacant lots, open wooded areas and along streams.

#### PLANT IDENTIFICATION

Giant hogweed can reach a mature height of 15 feet. The stem color can vary from entirely dark purple to mostly green with purple blotches. The texture of the stem is rough and bumpy, with blistery pimples that have individual hairs. Stems are hollow and 2–4 inches in diameter. Leaves are up to 5 feet in length. The giant hogweed flowers from mid-May through July, with numerous white flowers clustered in an umbrella-shaped head that is up to 2½ feet in diameter across a flat top.<sup>1–3</sup>

#### DISTRIBUTION IN THE NORTHWEST

Giant hogweed was first officially identified in Oregon in 2001 by the Oregon Department of Agriculture (ODA). Patient reports suggest, however, that exposures have occurred in Oregon as early as 1993. The plant has been found in urban, suburban, and rural settings in Clackamas, Marion, Multnomah, and Washington Counties. Giant hogweed was also identified in Columbia County and in the Eugene and Oakridge areas of Lane County. It is also commonly found



in western Washington, with over 800 sites in the Seattle area alone. There were 6 case reports of burns and blister reactions from giant hogweed during 2001 in Oregon, affecting 11 people.

#### IF THIS IS SUCH AN AWFUL PLANT, WHY AREN'T THERE MORE CASES?

Although only 11 cases have been reported to ODA, the problem is almost certainly more widespread. The medical community and affected individuals may not recognize giant hogweed as the source of rashes. Also, rashes from giant hogweed are not reportable by law; under-reporting is common even for clinical conditions that *are* reportable.

#### EFFORTS TO CONTROL THE PLANT

Giant hogweed is on the ODA and the U.S. Dept. of Agriculture list of noxious plants. ODA is asking property owners to control this weed on private and public lands. It is illegal to grow the plant or to transport it across state lines. In an effort to eliminate “little shops of horror,” ODA has also banned the sale of these plants.

#### PREVENTION STRATEGIES

People should avoid all unnecessary contact with the plants. People who dare to work with these plants should prevent skin contact by wearing protective clothing, such as gloves, long sleeves, long pants, hats and protective eyewear. Persons whose skin comes in contact with the sap should wash immediately with soap and cold water (hot water promotes absorption), avoid direct sunlight and consult their health-care provider. Keep children away from giant hogweed plants—whether dead or alive.

If you see a patient with this type of rash or burn, please report the case to the ODA at 503/986-4621. Those who see the plant are asked to report the sighting. For more information about this toxic plant, as well as information on about effective control methods, contact the Oregon Department of Agriculture at the website in reference #3.

#### REFERENCES

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