Features
Office of Medical Information
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****T'is the season to be sneezin'
and your tree may be the reason

DALLAS -- "To me, the smell of Christmas is the smell of the cedar tree," wrote Dallas historian A.C. Greene in A Christmas Tree, a 1973 memoir of his West Texas childhood.

Greene was referring to the mountain cedar, which may indeed conjure up cozy Christmases past for many of us. But for the estimated one person in 10 who is allergc to mountain cedar pollen, it is a harbinger of holiday misery.

A hardy species, which actually is not a cedar at all but a member of the juniper family, the mountain cedar and some of its close relatives remain popular as Christmas trees across much of the Sunbelt--especially among those who make it a practice to cut down their own tree. Little wonder that Dr. Rebecca S. Gruchalla, instructor of internal medicine at The University of Texas Southwestern Medical Center at Dallas, has such a busy allergy practice this time of year. "Mountain cedar victims have all the usual symptoms of allergic rhinitis: runny nose, watery eyes, scratchy throat, fatigue and general discomfort," she notes.

Their winter of discontent begins in late November, when male mountain cedars begin releasing airborne pollen, the male trees' fertilizing agent. If this should take place in an unwary allergy sufferer's living room, so much the worse for him. Female mountain

(More)

cedars, identifiable from their dark-blue berries, do not pollinate. Other junipers that release pollen, though in lesser amounts than their mountain cousins, are eastern red-cedar, red-berry juniper and one-seed juniper. It is common for a person sensitized to one member of the family to display a sensitivity to the others.

A 1983 study of 234 allergy patients in San Antonio suggested that mountain cedar may be almost unique in its ability to cause allergic rhinitis in patients who have no other sensitivities. The explanation may lie in the structure of mountain cedar pollen's main allergen, a protein first isolated and purified at UT Southwestern. Researchers speculate the carbohydrate complex to which this protein is attached may facilitate its movement through the secretions of the respiratory tract, which have a similar chemical composition. There also is evidence that sensitivity to mountain cedar may be inherited and that, as with other junipers, persons of Asian or Filipino descent may be particularly susceptible.

The sequence of biochemical events is the same as that of other allergens. The offending protein stimulates the body to produce antibodies called IgE (for immunoglobulin E), which attach themselves to mast cells, concentrated in the skin, gastrointestinal tract and respiratory passages. The antibodies instruct the mast cells to release histamine, the ultimate cause of allergy symptoms.

Histamine dilates blood vessels. In the upper respiratory tract these cause the nose to run and eyes to tear. A dry sore throat in the morning is common if nasal passages become blocked during sleep, forcing the allergy sufferer to breathe through his mouth. Some people

wheeze; others suffer headaches. And once respiratory tissues are affected by allergy they tend to become hypersensitive to airborne irritants that might not otherwise bother them, such as the aromatic resins in the needles of a Christmas tree, garland or wreath; or smoke and combustion gases from a fireplace stoked for chestnut-roasting. These can aggravate an allergic reaction and set off paroxysms of sneezing. The congestion associated with allergic rhinitis can also increase susceptibility to upper respiratory infections.

Efforts to work out the fine detail of the mountain cedar allergen's structure are continuing. Once the structure of that protein is known, it should be possible to synthesize it. A simple serum could then be prepared and administered to patients with symptons to block the reaction without triggering another one.

Fortunately, the Scotch pines and Douglas firs that are the mainstays of most urban Christmas-tree lots do not pollinate in the winter. But any live Christmas tree can cause allergies because anything from outside that's brought inside is likely to bring mold spores with it.

Molds are parasitic, microscopic plants without stems, roots or leaves. Most reproduce by releasing spores into the air to settle on plant or animal matter and grow into new mold clusters. Far more numerous than pollen grains, mold spores also can produce allergies.

"One thing you could possibly try with a live Christmas tree is to treat it with a fungicide," says Gruchalla. "The benefit hasn't been proven, but it's something that could be tried."

Even an artificial tree isn't a foolproof solution. "When I was a girl we used to take ours apart and wrap everything in old newspaper

for the summer," Gruchalla recalls. "When we brought it downstairs to re-assemble the following December there was a flood of dust." That scenario spells trouble for the estimated one in 20 people who experience severe allergy symptoms when exposed to dust. Actually, it isn't the dust itself that people are allergic to, but things in it: in most cases dust mites or, more specifically, proteins peculiar to dust mites.

All in all, getting an artificial tree and keeping it dust-free is probably the healthiest bet for an allergy sufferer, according to Gruchalla. "Those who insist on a live tree can simply premedicate themselves just as they would during ragweed season," she says. New antihistamines allow stronger doses without drowsiness. Steroid nasal sprays and inhalers are particularly effective and have none of the negative side effects of steroid shots or pills.

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