

Urinary retention as a result of administration of terfenadine

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Terfenadine (Seldane) is an effective, non-sedating antihistamine, which has not been associated with any urinary tract side effects. In this article, we report on two patients, both of whom experienced reversible urinary retention within a few days of being treated with terfenadine at the recommended dose of 60 mg twice daily.

CASE REPORTS

Case 1

A 55-year-old man came to our clinic to obtain a second opinion concerning his steroid-dependent asthma. He had been receiving daily prednisone, up to 20 mg/day, for about a year before his evaluation. He had mild symptoms that were compatible with early benign prostatic hypertrophy. Physical examination revealed enlarged nasal turbinates with hypertrophic mucosa, limitation of straight leg-raising, and a prostate of normal size. Sinus roentgenograms showed significant mucosal thickening. Treatment with orally and nasally inhaled beclomethasone was begun, in addition to theophylline and clemastine with phenylpropanolamine (Tavist D). The patient discontinued the antihistamine decongestant within 2 days because of dry mouth and difficulty in urination, marked reduction in intensity of flow, straining, and dribbling. His symptoms resolved within a few hours of discontinuation of the drug. He was switched to terfenadine, and urinary symptoms recurred within 48 hours. He had no other symptoms that could be attributed to an anticholinergic effect of the drug. Symptoms resolved again within 24 hours of discontinuation of the drug, while all other medications were continued.

Case 2

An 8-year-old girl was started on a regimen of terfenadine, 60 mg twice daily, for symptoms of allergic rhinitis. Within 7 days, hesitancy and urinary retention, but no other anticholinergic symptoms, developed. Because of the experience with patient described in case 1, the drug was stopped, and within 12 hours her urinary symptoms abated.

DISCUSSION

Terfenadine is a nonsedating selective H₁-blocker, which does not cross the blood-brain barrier. The drug does not have significant anticholinergic effects, although some patients have complained of a dry mouth during clinical trials.^{1, 2} The effect of terfenadine on urinary dynamics has been studied in eight normal subjects in whom average urinary flow increased by 13.1%, whereas it declined by 2.1% in subjects receiving placebo.³ Subjects noted no alterations in their urinary frequency or symptoms. The difference was not statistically significant and suggests that the drug is unlikely to cause urinary obstruction. However, increased urinary frequency is mentioned as an occasional side effect in the *Physicians' Desk Reference*.² In a recent study three adolescent girls were reported to have disturbing urinary frequency, which disrupted their school schedule, while they were taking terfenadine. All symptoms abated when the drug was stopped.⁴ From our experience with two patients, it would seem that urinary retention can occur with the use of terfenadine. The first patient had symptoms of prostatism and could not tolerate the combination of clemastine and phenylpropanolamine (Tavist D), which has only mild anticholinergic side effects.⁵ However, the second patient was an eight-year-old child with no clinical urologic problems. Both patients had symptoms of urinary retention with the use of terfenadine. The prompt resolution of symptoms in both patients upon discontinuation of the drug lends support to the implication that the drug caused the symptoms. Urinary retention appears to be a rare side effect of terfenadine.

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Direct exposure of carpets to sunlight can kill all mites

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Carpets are an important site for house dust mite colonization and for the accumulation and dissemination of mite aeroallergens.¹ Numerous methods have been used to try to control mite populations in carpets including acaricides, liquid nitrogen, and wet and dry vacuum cleaning. Each of these methods has particular problems including a lack of effectiveness, safety, and cost¹; and none have gained wide acceptance.

Mites are highly susceptible to water loss, an effect that increases at higher temperatures.² Placing items in direct sunlight will simultaneously dry them and heat them, creating a microclimate hostile to mite survival. Although "airing" of furnishings is widely practiced in some countries, its effects on mites and allergens have not been determined. We report the preliminary results of the effect of exposing carpets to the sun on mites and their allergens.

METHODS

Study design

Four woollen carpets (approximately 2 × 3 m), all from the same house, were used. Before exposure, live mites were collected from the carpets with adhesive tape to estimate mite populations, and dust samples were collected for allergen assay. For solar exposure, two carpets were placed pile-side down (i.e., upside down) on a concrete slab in the direct summer sun in

Sydney, Australia, from 9:15 AM to 3:00 PM. Measurements of temperature and relative humidity underneath the carpets were made every 15 minutes, and mite collections were made from the carpet pile for each 30-minute period. The two control carpets remained inside a local house where temperature and relative humidity under them were monitored and a single collection of live mites was made during the exposure period. After exposure, live mite populations in each carpet were again estimated, and dust samples were collected for allergen assay. To check for survival of mites and eggs after exposure, 0.5 gm samples of the fine dust collected from all carpets were cultured at 25° C, 75% relative humidity for 4 weeks and then examined.

Live mite counts, dust collection, and allergen assay

Live mite populations were estimated by counting mites collected on adhesive tape with a combination of modified "mobility" and "heat escape" methods.³ For the estimates made before and after exposure, two sections of Vibac adhesive tape (10 × 15 cm) (Vibac, Ticenito, Italy) were applied to the pile side of each carpet for 36 hours. During the exposure period similar sections of tape were applied to new areas for 30 minutes each. Mites were counted on 5 × 10 cm areas of the tape under 30× stereo magnification and categorized as "live" (white, mobile, and full-bodied) and "dead." Dead mites included those that were shrunken and fragmented and those that had distinctive brown shriveled bodies with fully intact setae. All were *Dermatophagoides pteronyssinus*. The number of live mites collected in each half hour of the exposure period was expressed as a percent of the total collected from that carpet over the 6-hour exposure period. Dust was collected with a modified hand-held vacuum cleaner, and mite allergen (*Der p* I per gram of fine dust) was measured by ELISA.⁴

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