PHYTOPHOTODERMATITIS

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Phytophotodermatitis (PPD) is a cutaneous phototoxic reaction that occurs following contact with certain plants. The reaction is stimulated by skin exposure to light sensitizing botanical substances known as furanocoumarins followed by exposure to long wave ultraviolet light in sunlight.

Furanocoumarins are present in plants such as, lemons, limes, mangos, parsley and many weeds. Psoralen is the active particle in furanocoumarins. Upon UVA radiation exposure from sunlight, psoralens within the skin react with molecular oxygen and form reactive oxygen species that induce destruction of skin cells and cause an inflammatory reaction.

PPD is most common in the spring and summer, as psoralen concentrations are the highest and outdoor activities under the sun are increased. Exposure to plants or solutions such as lemon or lime juice, lead to bizarre patterns of distribution. Streaks may be present from brushing against a plant or haphazard lines from juice. Common presentations are on the upper lip from drinking citrus beverages, from spilled beverages, or even from wiping juice onto exposed skin to dry the hands. This is often referred to as “Margarita Rash”.

The rash begins within 24 hours and can peak at 72 hours. The distribution of skin reactions is sharply limited to areas exposed to sun. Skin findings can consist of non-pruritic reactions, mild redness with or without erosions, to severe blistering. Redness can persist for weeks to months. Hyperpigmentation appears 1-2 weeks later and can last up to months.

The distribution to sun exposed areas and pattern aid in diagnosis. History and a high index of suspicion is key to diagnosing PPD. Other photosensitizers include diseases such as the hepatic porphyrias, or medications such as antibiotics (doxycycline), antifungals (voriconazole, Griseofulvin), diuretics (furosemide, hydrochlorothiazide). These etiologies should be ruled out.

Wet skin, sweating and heat can enhance the phototoxic response. Involved areas can remain hypersensitive despite resolution of rash. Patients aware of PPD can take preventative measures. Immediate rinsing of affected area is important, as the plant extract can take 30-120 minutes to be absorbed. Treatment is aimed at symptomatic care and should resolve with time.