

Phytophotodermatitis

Phytophotodermatitis (PPD) is a cutaneous phototoxic reaction that occurs following contact with certain plants containing light-sensitizing compounds known as furanocoumarins. These compounds, which are found in a variety of plants such as lemons, limes, mangos, parsley, and certain weeds, become problematic when the skin is exposed to ultraviolet (UV) light, particularly UVA radiation. The mechanism behind PPD involves the active compound psoralen, a furanocoumarin, which reacts with UVA light to produce reactive oxygen species that damage skin cells, leading to an inflammatory response.

Clinical Features

Furanocoumarins are most prevalent in the spring and summer months, when plant exposure is high, and sunlight is abundant. This seasonal pattern is significant in the occurrence of PPD, as outdoor activities increase and people are more likely to come into contact with these plant substances. The rash typically results from direct skin exposure to plant parts or plant juices. Common sources include citrus fruits like lemon and lime, with reactions often occurring from simple activities such as drinking citrus beverages, wiping hands with fruit juices, or spilling citrus juice onto the skin. This phenomenon is sometimes referred to colloquially as “Margarita Rash,” as it is commonly associated with the consumption of margaritas made with lime juice.

The clinical presentation of PPD typically begins within 24 hours after exposure and can peak at 72 hours. The reaction is localized to areas of the skin exposed to sunlight, and the pattern of the rash is usually reflective of where the contact occurred. Affected skin may show a variety of manifestations, ranging from mild redness with or without erosions to severe blistering. These lesions are typically non-pruritic but can cause discomfort. Redness may persist for weeks to months, and hyperpigmentation, which appears 1-2 weeks after the initial reaction, may linger for several months.

Diagnosis

Diagnosis of PPD is largely clinical and is supported by a thorough history, including a high index of suspicion for exposure to photosensitizing plants. A key diagnostic feature is the distribution and pattern of the rash, which is sharply limited to sun-exposed areas. It is essential to differentiate PPD from other conditions that may cause similar photosensitive reactions, including hepatic porphyrias and certain medications such as doxycycline (a common antibiotic), voriconazole and griseofulvin (antifungals), and diuretics like furosemide and

hydrochlorothiazide. Ruling out these other causes is important for accurate diagnosis and treatment.

Several factors can enhance the severity of the phototoxic response, including wet skin, sweating, and heat. These factors can exacerbate the reaction by facilitating the absorption of the plant compounds into the skin. After the rash resolves, affected skin may remain hypersensitive to sunlight, which can lead to prolonged discomfort. Patients who are aware of their susceptibility to PPD should take preventive measures, such as avoiding direct contact with photosensitizing plants and wearing protective clothing. Immediate action, such as rinsing the affected skin with water to remove any plant extract, is crucial, as the compounds can take anywhere from 30 to 120 minutes to be absorbed into the skin.

Management

Treatment for PPD is generally symptomatic, as the condition resolves with time. Supportive care typically includes the use of cool compresses to alleviate discomfort, topical corticosteroids to reduce inflammation, and oral antihistamines for relief of any associated itching, although pruritus is not a common symptom. Blistering, when present, should be managed with wound care to prevent infection. While hyperpigmentation and redness may persist for an extended period, PPD itself is self-limiting, and with appropriate care, the condition typically resolves without lasting complications.

Conclusion

In conclusion, phytophotodermatitis is a phototoxic skin reaction that occurs when certain plants containing furanocoumarins come into contact with the skin, followed by exposure to ultraviolet light. Commonly resulting from interactions with citrus fruits this condition manifests as skin redness, blistering, and hyperpigmentation, often in patterns corresponding to where the plant material has contacted the skin. The condition is self-limited and typically resolves over time. Diagnosis is primarily clinical, supported by a patient history of plant exposure and sunlight exposure. Preventative measures, such as immediate washing of affected areas and avoiding sun exposure, can reduce the severity of the reaction. Although the condition is generally benign, it is essential for individuals to be aware of the risk factors and take necessary precautions to minimize further episodes. Treatment is typically symptomatic, with most cases resolving without medical intervention.

References

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