



English Sunday lunch dermatitis: Allergic contact dermatitis to parsnip, carrot, fennel (and ivy)

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We present a case of allergic contact dermatitis to parsnip, carrot, fennel, and ivy, without gastrointestinal symptoms.

CASE REPORT

A 51-year-old man presented with intermittent rashes on the hands, particularly the fingertips and palms of the nondominant hand. He had noticed that the eruption tended to appear on Mondays and felt that preparing the traditional English Sunday roast lunch was the cause of his problems. The eruption tended to last 3 days before spontaneous resolution with dry skin/scaling, or after use of a standard moisturizing cream. Every time he peeled and chopped parsnips and carrots, he would notice a rash on the hands the following day, but had never suffered nasal or respiratory symptoms. On Sundays when he did not prepare food, there were no problems. On direct questioning, he remembered suffering a similar rash on the hands after chopping fennel and also a hand and forearm dermatitis when clearing ivy from his garden without gloves. He had never experienced any rashes or gastrointestinal symptoms eating cooked carrots, parsnip, or fennel in the absence of handling the raw vegetables.

Previous medical history included stable vitiligo and he was taking no medications. He had never suffered from allergic rhinitis or other atopic diseases. Examination revealed no active dermatitis, as he had stopped preparing the Sunday lunch for some time prior to the consultation. There was no visible vitiligo in areas previously affected by the rash.

The patient was patch tested with the (pre-2019) European baseline series, fragrance ingredients, and cosmetic preservatives using Finn Chambers on Scanpor Tape from Smart Practice (Phoenix, Arizona), allergens from Chemotechnique Diagnostics (Vellinge, Sweden) as well as moistened thin shaves of parsnip and a moistened fragment of ivy leaf (using the methodology already published¹). Readings were performed according to ESCD guidelines.² The only positive readings at day (D) 7 were ++ spreading reactions to parsnip and ivy. The parsnip and ivy were tested in an identical manner on a healthy individual (JMLW) with completely negative results at D7. Prick

testing was planned for the patient but abandoned given the patch test results. A diagnosis of allergic contact dermatitis to parsnip, carrot, fennel, and ivy was made. The patient was advised to avoid direct contact with all of the allergens (as well as other related fresh herbs such as cumin, parsley, coriander, and dill) by wearing gloves; 12 months after the tests, the patient reports having had no rashes at all with allergen avoidance, apart from accidental exposure to ivy in the garden on one occasion.

DISCUSSION

Carrots, parsnips, and fennel belong to the Umbelliferae (Apiaceae) family of plants. IgE-mediated allergy to these plants is not uncommon and may be part of the pollen-food allergy syndrome causing oral or gastrointestinal symptoms, as well as potentially causing contact urticaria. Phototoxic reactions may also be seen with wild parsnip. English ivy (*Hedera helix*) is a member of the Araliaceae family and allergic contact dermatitis to this is probably under-reported.¹ One other case of a cell-mediated reaction to vegetables such as parsnips has been published,³ much like our patient. The precise allergen for these delayed reactions is unknown. Carrots, parsnips, fennel, and ivy all contain falcarinol, but Paulsen et al noted negative patch test reactions to falcarinol in their patient, despite demonstrating the presence of falcarinol in the patch test material. However, falcarinol is difficult to extract and obtain and is not commercially available; hence, the optimal patch test concentration/vehicle is not known, making Paulsen's negative result interesting but not conclusive. Nevertheless, there may be a different, common allergen to explain our patients' allergic contact dermatitis.

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AUTHOR CONTRIBUTIONS

Jonathan White: Conceptualization; data curation; formal analysis; investigation; methodology; project administration; writing-original

draft; writing-review and editing. **Andrew Pink:** Project administration; visualization; writing-review and editing.

CONFLICTS OF INTEREST

The authors have no real or perceived conflicts of interest to declare.

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Perioral phytophotodermatitis induced by parsnip mash

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KEYWORDS: bullous eruption, case report, child, furocoumarins, hyperpigmentation, parsnip, phytophotodermatitis

Phytophotodermatitis is a chemical reaction that occurs after exposure of phototoxic compounds to ultraviolet rays (UVA 320 to 380 nm).¹ Many plants, including parsnip, fennel, parsley, lemon, bergamot, aniseed, coriander, celery, and figs, may cause phytophotodermatitis,² because they contain natural photosensitizing compounds called furocoumarins (eg, 5-methoxypsoralen).³ When activated by UVA, furocoumarins release free radicals, which bind to the pyrimidine bases of DNA, damaging it and leading to cell death.¹ Skin reactions generally appear 24–72 hours after exposure, mostly after cutaneous contact, but some cases have been reported after ingestion of celery. The acute lesions often present with irregular erythematous streaks with vesicles or bullae and sharp demarcation on the exposed area.⁴ In the chronic phase, residual hyperpigmented macules can take months to years to resolve. This hyperpigmentation is caused by stimulation of the production of melanin by psoralen.¹ We report a case of prolonged perioral phytophotodermatitis in a young child after eating a parsnip mash outdoors.

CASE REPORT

A 10-month-old boy presented a perioral rash which appeared on a Monday in February 2019. He had no medical history or treatment.

On examination, an apparently non-pruritic perioral erythema with some edema of the upper lip was noted. On day 2, the chin and both cheeks were affected by a painful swelling bullous eruption. His mother informed us that they had a picnic on Sunday in a park in Toulouse (France) and that the child had eaten a warm homemade parsnip mash. The eruption was located on the areas where the child had spread the mash around his mouth, leading to the diagnosis of phytophotodermatitis. Despite the application of topical corticosteroids associated with healing cream and topical antibiotics, honey-coloured crusts appeared on day 5. Thus, systemic antibiotic therapy became necessary. After 10 days, the plaques and blisters resolved, leaving residual pigmentation (Figure 1), which still persisted until day 90 and gradually faded over the next 10 months, with enhanced photoprotection of the child.

DISCUSSION

Phytophotodermatitis can mimic other dermatological conditions such as allergic contact dermatitis, drug-related photosensitivity, severe burns, herpes, or bullous impetigo.⁴ Inquiring about plant or plant extract contact is essential to establishing the diagnosis, such as in our case. Treatment consists in application of healing creams and topical corticosteroids in severe eruptions. Local or oral antibiotics are used if