

A CASE OF IMMEDIATE AND DELAYED SKIN REACTION AFTER ORAL CONTACT WITH CASHEW SEED SHELL

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OBJECTIVE

We present a case of immediate and delayed skin reaction after ingestion of cashew apple and oral contact with the soft shell of the cashew seed.



Immediate reaction (within hours)



Delayed reaction (after 8 days)

CASE REPORT

During a journey in Brazil, a 17-year-old Belgian woman, with no previous known allergy, ate a mouthful of raw cashew apple, which she reported to be astringent. She was unfamiliar with the fruit and also bit but did not swallow the inedible soft shell of the cashew seed (known as cashew nut in the culinary language). She immediately experienced a very bitter taste and a burning sensation in her mouth. Fifteen minutes later, she developed a pruritic linear reddish-brownish rash on the forehead (2.5 cm x 0.5 cm) and a similar lesion, although larger (5x7 cm), on the left side of the abdomen. The pruritus spontaneously resolved within a couple of hours. The day after, a white crust appeared on both lesions and lasted about 1 day, while the skin rash lasted one week before further exacerbation.

Eight days after the initial contact, the rash increased in size, evolving towards hives. In addition, 5-6 new pruritic lesions, similar in aspect, appeared on both sides of the abdomen. She was treated during 5 days with oral antihistamine and topical corticosteroids with no improvement of the rash but slight relief of the pruritus. Later, all lesions progressively disappeared and completely resolved after 4 to 5 weeks.

DISCUSSION

Cashew nut tree (*Anacardium occidentale*) belongs to the *Anacardiaceae* family, which includes the common poison ivy (*Rhus radicans*), western poison oak (*R. toxicodendron*), poison sumac (*R. vernix*) and others. These plants are the most frequent cause of allergic contact dermatitis worldwide (2).

The cashew apple (pseudocarp or false fruit) is a red or yellow 5-11 cm long pear-shaped structure. It is edible, although it has a highly astringent taste if eaten raw. It is also used to make jam, liquor or soft drinks.

The raw cashew nut contains a highly irritating oil located between the 2 layers of its shell (1). After appropriate processing (initial heating followed by use of water and agitation or sawdust and vibrating cleaner), most of the oil is removed and cashew nuts are edible (1).

Cashew oil contains 3 main allergens: two phenols, anacardic acid and cardanol and a resorcinol, cardol, considered as the

most active allergen (3). They are chemically related to urushiol (*Rhus* antigens) and can trigger allergic contact dermatitis.

Poison-ivy like dermatitis has been reported in persons who consumed improperly processed cashew nuts (3). Patients with strong patch test positivity to poison ivy urushiol usually have the most severe dermatitis. In the present case, the patient had no previous known history of sensitization to poison-ivy and had previously eaten roasted cashew nuts without reactions. Although the patient does not remember any liquid on her skin, contact with contaminated fingers cannot be ruled out, which could explain the immediate reaction.

Pruritic rash appears usually 1 to 8 days after consumption and can last several weeks (3). Children playing with fresh cashew nuts, professionals harvesting nuts, people in contact with imported toys or jewels made out of nut shell can be affected. Cashew nuts are known as food allergen and are responsible for anaphylaxis and systemic contact dermatitis after ingestion.

CONCLUSION

Cashew apple is unknown in Europe. When invited to taste local fruit, travelers should be informed which part is edible. Limited contact with the shell of the cashew seed resulted in this patient in immediate and delayed long lasting dermatitis.

REFERENCES

1. Ratner JH et al. Cashew nuts dermatitis. An example of Internal-external contact-type hypersensitivity. *Archives in Dermatology* 1974; 110:921-923.
2. Rosen T. Cashew nut dermatitis. *Southern Medical Journal* 1994;87:543-546.
3. Marks JG et al. Dermatitis from cashew nuts. *J Am Acad Dermatol* 1984; 10:627-631