Systemic Contact Dermatitis Secondary to Cashew Ingestion: A Tough Nut to Crack

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Introduction

Systemic allergic contact dermatitis (sACD) describes a dermatologic condition in which individuals previously sensitized to an antigen subsequently develop dermatitis when exposed via a systemic route (inhalation, ingestion).

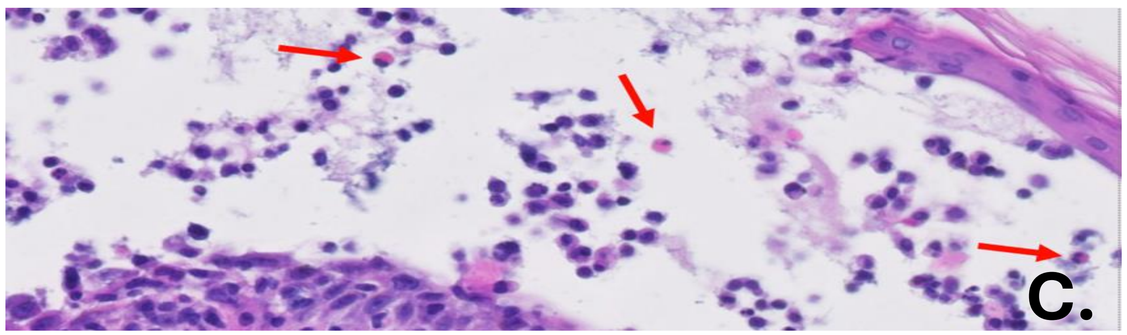
- Treatment: Corticosteroids, antihistamines, avoidance of causative agent

Case Description

- A 12-year-old boy presented to the Emergency Department with erythematous, edematous papules and plaques with numerous vesicles and bullae to the face, trunk, arms, thighs, and groin
- The patient had eaten cashews three days prior to onset of rash
- Patient reported pruritis but had no dyspnea
- Started IV methylprednisone 1 mg/kg/day for suspected sACD
- Absolute eosinophil count elevated at 0.64, relative percentage 6.6%
- Punch biopsy: eosinophils found within an intra-epidermal vesicle, perivascular inflammation, the interstitial dermis, and superficial dermal vessels, consistent with sACD
- After 5 days of IV methylprednisolone, diphenhydramine, and famotidine, along with topical triamcinolone and hydrocortisone, the patient was discharged home with an oral prednisone taper.

Figure A. Papules and plaques with vesicles and bullae to the face, hospital day 1.

Figure B. Patient four weeks later



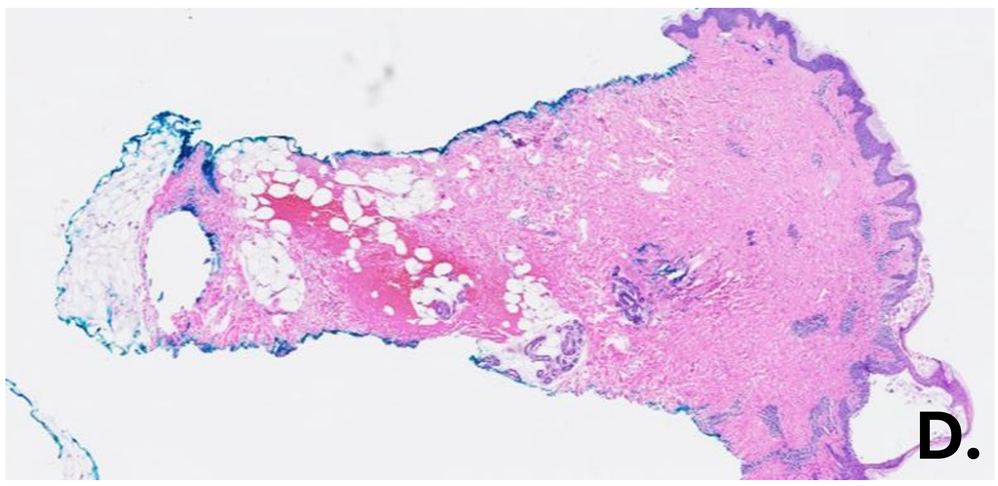


Figure C. Intra-vesicular eosinophils

Figure D. Punch biopsy: eosinophils within intra-epidermal vesicle, perivascular inflammation, the interstitial dermis, and superficial dermal vessels

Discussion

- sACD is a T-cell mediated type IV hypersensitivity reaction.
- Whereas allergic contact dermatitis (ACD) is typically secondary to direct contact with the skin, sACD results from systemic exposure (inhalation, ingestion) in a pre-sensitized individual.
- sACD due to cashews usually has flexural accentuation and is distributed on extremities, groin, and buttocks. It typically occurs 1-3 days after ingesting cashews contaminated with allergenic oil.
- Cardol and anacardic acid are found in cashew shells and are closely related to pentadecylcatechol released from poison ivy. However, they should be removed during processing.
- Previous cases of sACD due to cashews have been due to raw or partially processed cashews, which makes this case unique.
- This case demonstrates that store-bought cashews can be contaminated with urushiol or shell fragments and must still be considered as a potential culprit in cases of sACD.

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