Hand Dermatitis Secondary to Exposure to Butternut Squash

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Abstract
\textit{Cucurbita moschata}, also known as butternut squash, is a common ingredient in numerous seasonal recipes but is an uncommon cause of cutaneous reactions. We present a 28-year-old male who developed dry and flaking skin of his right palm and fingers after coming in contact with butternut squash, which does not typically serve as an allergen that precipitates contact dermatitis. Given the unilateral localization of the dermatitis, timeline of the development of symptoms, and history of contact with butternut squash, the patient likely developed contact dermatitis of the right hand in response to exposure to butternut squash. Contact dermatitis with butternut squash appears to be an uncommon phenomenon, but it may occur more often and not be reported.

Introduction

\textit{Cucurbita moschata}, also known as butternut squash, is a species of winter squash originating from Central and South America that is borne from flowers \[1\]. Butternut squash is closely related to and shares many properties with pumpkin (\textit{Cucurbita pepo}) and other varieties of summer and winter squashes (\textit{Cucurbita mixta} and maxima) \[2\]. Butternut squash has a sweet and nutty flavor, making it a staple ingredient for numerous seasonal recipes. Butternut squash is an uncommon cause of cutaneous reactions. Thus, we present a patient who developed hand dermatitis after butternut squash exposure.
Case Report/Case Presentation

A 28-year-old male with no significant past medical history developed dry and flaking skin of his right palm and fingers after coming in contact with butternut squash during meal preparation. The patient was holding an unpeeled butternut squash in his right hand, while peeling it with his left hand, when he started to develop "tightness" in his right hand. The sensation of "tightness," which he described as "uncomfortable," began 10–15 min after holding the unpeeled butternut squash, but he did not experience any associated pain, itching, or burning. He had prepared butternut squash on numerous occasions in the past but denied ever having a similar reaction previously, and he has no history of food allergies, eczema, or other atopic diseases. Soon thereafter, he developed diffuse flakiness and dryness of the skin of his right palm (Fig. 1). The skin changes were isolated to the right hand; his left hand, and other parts of his body, did not have a direct contact with the butternut squash. He treated the dermatitis with a colloidal oatmeal cream multiple times over 2 days and noted minimal improvement. His right palm continued to peel and flake for the remainder of the day of contact but returned to baseline after a few days. On reexposure to butternut squash, he again experienced tightness and an uncomfortable sensation only in the hand in contact with the butternut squash, but he did not develop a repeat dermatitis.

Discussion/Conclusion

Contact dermatitis in response to food exposure is common, but butternut squash does not typically serve as an allergen that precipitates this condition [3]. A previous report of dermatitis induced by contact with butternut squash occurred in a patient almost immediately after peeling a butternut squash [4]. Three other patients with contact dermatitis of the fingertips had positive patch testing for another type of squash, Cucurbita maxima [5]. Atopic patients have been reported with allergic responses after ingestion of C. maxima and C. pepo,
which share some similarities with *C. moschata*, but this response has not been demonstrated following extrinsic contact [6, 7].

Given the unilateral localization of the dermatitis only on exposed skin, timeline of the development of symptoms, return of certain symptoms on reexposure, and history of contact with butternut squash, the patient likely developed contact dermatitis of the right hand in response to exposure to butternut squash. In the process of peeling the butternut squash, the patient came in contact with the flesh of the vegetable, which likely exposed him to the precipitant of the dermatitis within the squash. The allergen within butternut squash responsible for the dermatitis is unknown. Of note, the patient's dermatitis was nonpruritic. While dermatitis is generally associated with itchiness, it is well documented and within the realm of typical presentations for contact dermatitis to be nonpruritic [8, 9]. While there is some evidence of Type I and IV hypersensitivity reactions resulting from contact with different varieties of squash, contact with butternut squash appears to be an uncommon phenomenon, but it is also possible that it occurs more often but is not reported.

**Statement of Ethics**

Written informed consent was obtained from the patient for publication of the details of their medical case and any accompanying images. Ethical approval was not required for this study in accordance with local/national guidelines.

**Conflict of Interest Statement**

Steven R. Feldman has received research, speaking, and/or consulting support from a variety of companies including Galderma, GSK/Stiefel, Almirall, Leo Pharma, Boehringer Ingelheim, Mylan, Celgene, Pfizer, Valeant, Abbvie, Samsung, Janssen, Lilly, Menlo, Merck, Novartis, Regeneron, Sanofi, Novan, Quirient, National Biological Corporation, Caremark, Advance Medical, Sun Pharma, Suncare Research, Informa, UpToDate, and National Psoriasis Foundation. He is founder and majority owner of www.DrScore.com and founder and part owner of Causa Research, a company dedicated to enhancing patients’ adherence to treatment. Milaan A. Shah has no conflicts to disclose.

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**Author Contributions**

Milaan A. Shah and Steven R. Feldman contributed to the writing of all sections and components of the report.

**Data Availability Statement**

All data generated or analyzed during this study are included in this article. Further enquiries can be directed to the corresponding author, Milaan A. Shah.
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