

# 'A recurrent cutaneous eruption'

Navin Kumar Devaraj

Department of Family Medicine,  
Universiti Putra Malaysia Fakulti  
Perubatan dan Sains Kesihatan,  
Serdang, Malaysia

**Correspondence to**  
Dr Navin Kumar Devaraj,  
knavin@upm.edu.my

Accepted 10 January 2019

## DESCRIPTION

A 47-year-old man presented to the primary care clinic for evaluation of rash. In addition to several itchy lesions over the body and face, he had itchiness over his hands, face and lips that began after eating lunch, consisting of eggs and crab. There was no associated shortness of breath, hypotension or difficulty in swallowing. The patient did not have a known IgE-mediated allergy or history of anaphylaxis to any foods. On examination, it was also noted that the patient had an annular lesion over his left arm that was violaceous red in colour (figure 1), itchy, non-blanching and non-tender. On further questioning, the man noted that he had developed a similar lesion over his left arm with prior ingestions of crab but no rash or immediate reaction ever associated with eating eggs. In addition to crab, the patient had also experienced this rash with certain medication ingestion, including non-steroidal anti-inflammatory drugs and penicillin. Despite similar reaction to crab in the past, the patient had elected to continue eating crab with thought that the reaction might not recur.

The patient was suspected to have fixed food eruption (FFE) secondary to ingestion of shellfish. Concurrent IgE-mediated allergy was also suspected, given the immediacy and character of symptom onset following ingestion. Although epinephrine was not required, the patient was

treated with antihistamines and advised to avoid crab in the future given concern for potential anaphylactic reaction.

FFE is a rare hypersensitivity reaction, characterised by recurrent cutaneous lesions at the same site on re-exposure to the offending food.<sup>1</sup> The pathophysiology of FFE is not definitively known, and may be multifactorial.<sup>2</sup> FFE usually present as a single or multiple erythematous plaques that will resolve spontaneously, leaving postinflammatory hyperpigmented lesions.<sup>1</sup> The typical timing of rash onset following food ingestion is usually 12–24 hours<sup>1</sup>; however, Parker *et al* reported a case of FFE with almost immediate onset after ingestion of cashews and peanuts, implying that FFE might occur alongside IgE-mediated symptoms.<sup>2</sup>

The first use of the term FFE was in 1996, to describe a recurrent fixed lesion that occurred following ingestion of strawberry.<sup>3</sup> Since this case report, many other food triggers have been found such as asparagus, cashews and lentils, among others.<sup>2</sup> Although the exact underlying pathophysiology driving FFE is not definitively known, the mechanism may be similar to that involved in fixed drug eruption, whereby drug-specific CD8+ T cells that persist in the skin are reactivated on drug re-exposure, leading to induction of apoptosis of keratinocytes and resulting in the phenotypic cutaneous lesion.<sup>4</sup>

Definitive diagnosis of FFE relies on replication of rash onset following oral food challenge to the suspected culprit food. Although an oral food challenge was not performed in this case, in the previously referred report by Kelso, physician observed challenge and ingestion of fresh strawberry caused skin eruption over the same site after 48 hours of reingestion.<sup>3</sup>

Management will entail strict avoidance of the offending food. Use of antihistamines and corticosteroids can be considered symptomatically. Further,



**Figure 1** Violaceous skin lesion occurring over the same site over the left arm.



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**To cite:** Devaraj NK. *BMJ Case Rep* 2019;**12**:e228355. doi:10.1136/bcr-2018-228355

## Learning points

- ▶ Fixed food eruption (FFE) is a unique hypersensitivity reaction whereby recurrent fixed cutaneous lesions appear at the same site on re-exposure to the offending food.
- ▶ Education on avoidance of potential culprit food is important in preventing the recurrence of FFE.
- ▶ Onset of FFE with concurrent IgE-mediated anaphylaxis appears to be possible, and thus thorough evaluation for both types of hypersensitivity is necessary when a food reaction is suspected.

in cases where FEE co-occurs with symptoms of anaphylaxis, appropriate use of epinephrine is recommended.

**Acknowledgements** The author would like to thank the patient for his kind permission in publishing of this image.

**Contributors** NKD as the sole author drafted, wrote and approved this article.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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