Dermatitis herpetiformis flare after excess ingestion of eggs

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Key words: autoantigen; dermatitis herpetiformis; iodine.

INTRODUCTION

Dermatitis herpetiformis (DH) is a chronic pruritic autoimmune blistering disorder associated with gluten sensitivity.[1] In addition to gluten, iodine is known to exacerbate DH, but sources of dietary iodine are likely to be underrecognized as culprits in the flares of DH. To our knowledge, we report the first case of a previously well-controlled patient with DH who presented with a disease flare following daily excess ingestion of eggs.

Abbreviation used:

DH: dermatitis herpetiformis

CASE REPORT

A man in his 50s with hypothyroidism and DH who was diagnosed 4 years before presented for an evaluation of a worsening rash on his face, arms, and legs. He had been previously well-controlled on a gluten-free diet and 3-g daily doses of sulfasalazine. The physical examination revealed numerous crusted erythematous macules and erosions on his face, arms, and legs (Fig 1). His clinical presentation was identical to a previous flare of DH that occurred when he was not taking sulfasalazine daily, as prescribed.

Of note, this patient obtained his food from a food bank and would frequently bring canned items to his appointments to ensure that he was maintaining a gluten-free diet. He was also well-connected with a dietician prior to his presentation. Upon further questioning, he reported eating many canned foods and up to a dozen eggs per day. He was given a list of foods high in iodine to avoid and was instructed to decrease his daily consumption of eggs. One month later, he demonstrated a notable clinical improvement after reducing his egg intake from 1 dozen to 2 eggs per day.

DISCUSSION

The pathogenesis of DH involves the deposition of immunoglobulin A immune complexes in the papillary dermis with the associated autoantigen identified as an epidermal transglutaminase 3.[1] Oral provocation and epicutaneous testing with iodine were found to be of diagnostic use in DH before direct immunofluorescence was available.[2] However, the mechanism by which iodine worsens DH has been only recently elucidated. In 2018, it was found that the active site of epidermal transglutaminase 3 undergoes alterations in its structure after exposure to high concentrations of iodine, which promotes an increase in disease activity.[3]

There are few reports in the literature that describe iodine as an exacerbating factor of DH. Previous reports have mentioned iodine contrast media, iodoform packing strips, and iodine-containing supplements as provoking factors.[4,5] However, to our knowledge, there have been no reports of iodine-containing foods as causes of a DH flare.

A single egg makes up approximately 17% of the recommended daily dietary intake of iodine.[6] Our patient was consuming 12 eggs per day, which corresponds to 204% of the recommended daily

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Funding sources: None.

Presented at the University of Louisville Dermatology Spring Meeting, Louisville, KY, May 20, 2022.

IRB approval status: Not applicable.

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JAAD Case Reports 2022;29:156-7.

2352-5126

https://doi.org/10.1016/j.jdcr.2022.09.019

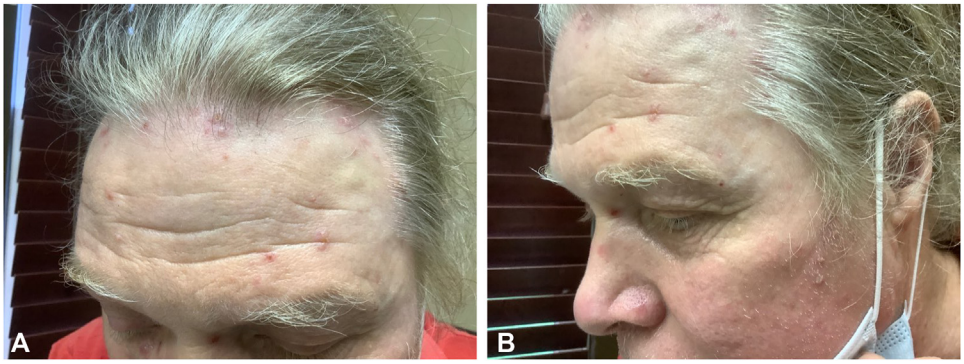

Fig 1. Numerous crusted erythematous macules and erosions on the **(A)** front and **(B)** side the face.

intake, and subsequently, led to a flare of his disease. Based on this observation, we encourage clinicians to take thorough dietary histories of patients presenting with refractory DH with careful attention to dietary iodine intake.

Conflicts of interest

None disclosed.

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