

## Case Report

# Dyssebacea: a feature that points to an underlying pellagra

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### ABSTRACT

Niacin (vitamin B3) is a B complex vitamin whose deficiency leads to pellagra, a condition with characteristic cutaneous, gastrointestinal and neurological features. In the western world, it is almost eradicated due to fortification of flour with niacin. In developing countries, it is commonly seen in low socioeconomic group of population or in areas where corn or maize is a staple diet and it generally affect adults. The role of niacin has also been detected in various non dermatological conditions like hypertension apart from its dermatological uses. Its deficiency can easily be missed unless the patient presents with the characteristic photosensitive rash. "Dyssebacia" is the name coined to describe numerous plugs of inspissated sebum projecting from dilated orifices of sebaceous gland. It is occasionally found to precede other dermatological findings in pellagra. Hence it is important for a clinician to know this unusual finding, dyssebacea, which helps in early detection and treatment of the deficiency.

**Keywords:** Pellagra, Niacin, Dyssebacea, Deficiency, Vitamin B3

### INTRODUCTION

Niacin, the precursor of two coenzymes in cellular metabolism, nicotinamide adenine dinucleotide (NAD) and NAD phosphate (NADP), is synthesized from dietary tryptophan by pyridoxal phosphate in the presence of vitamins thiamine and pyridoxine.<sup>1</sup> Pellagra, an Italian word meaning 'rough skin', is a disorder due to deficiency of niacin or its precursor tryptophan, characterised by four Ds: the dermatitis, diarrhoea, dementia, and rarely death, where the order of appearance of former three can vary.<sup>2</sup> But the feature that help clinically to identify the deficiency are the characteristic well defined photosensitive rash with flaky scaling. Vesicles may occur in acute and severe attacks of pellagra. Dyssebacea, also known as Seborrhoea spinulosa or shark skin is used to describe seborrhea like skin lesions on the face and consists of spikes of inspissated yellow or dark oxidized sebum projecting from follicles, is a finding seen with niacin deficiency.<sup>3</sup>

Herein we present a case of pellagra which enlighten clinicians about this uncommon finding, dyssebacea.

### CASE REPORT

60 years old male with a BMI of 18.7 presented with gradually progressing brown-black lesions on hands and legs with oozing from leg lesions and thickening of skin with spiny projections on face of one-year duration and chronic diarrhoea for six months.

Examination revealed a hyperpigmented plaque with well-defined border up to his cloth margins, with areas showing blistering, oozing and flaky peeling. Lesion on the forearm extend proximally with a characteristic line of demarcation forming the 'glove' or 'gauntlet' of pellagra and the lesion on the leg extended above knee with a well-defined margin up to his trousers (Figure 1). Face showed well defined plaque involving forehead, perioral and perinasal area with sparing of periorbital areas and areas under anterior hairline. Oral cavity

examination revealed cheilitis, enlarged and fissured tongue with prominent teeth markings and oral candidiasis. Dermo-scropy of the face lesions revealed a yellow non-greasy follicular plugging and scaling of interfollicular area (Figure 2).



**Figure 1: Characteristic photosensitive dermatitis on hands and legs.**



**Figure 2: Dermoscopy of facial dyssebacea plaque.**



**Figure 3: Resolution of dyssebacea following treatment with niacin.**

Considering the characteristic well defined photosensitive plaques with flaky peeling and severe dyssebacea and ours being a place where ragi and corn is a staple diet, a diagnosis of pellagra was made. Blood counts and peripheral smear were normal. Ours being a resource poor setup, he was put on therapeutic trial with niacinamide, multivitamin and zinc and generous amounts of emollients. For the oozing blistering areas, potassium permanganate compresses and topical steroids were given. A 3% salicylic acid ointment with emollients were given for the dyssebacea (Figure 3). The lesions reduced in a 10-12 days and was discharged with dietary advice.

## DISCUSSION

Pellagra is a deficiency disorder not so common, unless there is precipitating factors hindering absorption or utilisation of niacin as seen in malnutrition, chronic alcoholism, anorexia nervosa Hartnup disease, HIV infection, oesophageal carcinoma and diet containing jowar, ragi, maize. Malnutrition and dietary practices were found to be the causative factors in our case and other factors were ruled out with history and investigations.<sup>4-7</sup>

Dyssebacea in pellagra is non-inflammatory unlike the photosensitive rash and is said to be confined to the face and independent of sun exposure.<sup>3</sup> But our patient had well defined plaques with sparing of photo protected sites. The skin in this region is dry because the oily sebum either is not being evolved or fails to reach the surface.<sup>8</sup> They also appeared before the development of the characteristic dermatitis of pellagra and reduces with oral niacin similar to other reports.<sup>8</sup>

Hence dyssebacea can be considered as a 5<sup>th</sup> 'D' that is seen as an early lesion in pellagra and it is important to identify this finding for early detection of the deficiency.

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## REFERENCES

1. Karthikeyan K, Thappa DM. Pellagra and skin. Int J Dermatol. 2002;41:476-81.
2. MacDonald A, Forsyth A. Nutritional deficiencies and the skin. Clin Exp Dermatol. 2005;30:388-90.
3. Fred HL. Dyssebacia-a fifth D of pellagra. Pract Gastroenterol. 2003;27:41-2.
4. Wan P, Moat S, Anstey A. Pellagra: A review with emphasis on photosensitivity. Br J Dermatol. 2011;164:1188-200.
5. Piqué-Duran E, Pérez-Cejudo JA, Cameselle D, Palacios-Llopis S, García-Vázquez O. Pellagra: A clinical, histopathological, and epidemiological study of 7 cases. Actas Dermosifiliog. 2012;103:51-8.

6. Sato M, Matsumura Y, Kojima A, Nakashima C, Katoh M, Kore-Eda S et al. Pellagra-like erythema on sun-exposed skin of patients with anorexia nervosa. *J Dermatol.* 2011;38:1037-40.
7. Nogueira A, Duarte AF, Magina S, Azevedo F. Pellagra associated with esophageal carcinoma and alcoholism. *Dermatol Online J.* 2009;15:8.
8. Smith SG, Smith DT, Callaway JL. Dysfunction of the sebaceous glands associated with pellagra. *J Invest Dermat.* 1941;4:23-42.

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