

Fixed Pigmented Erythema Induced by *Moringa oleifera*: First Case Reported in Benin

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ABSTRACT

Introduction: Fixed pigmented erythema (FPE) is one of the most common toxidermias worldwide. In Benin, it ranks first among toxidermias in hospitals. It is a skin reaction, usually due to drugs, but in recent years, foodborne cases of FPE have been described in the literature. To the best of our knowledge, no case of FPE due to *Moringa* has been described. We report the first case of FPE induced by *Moringa oleifera* in Benin. **Observation:** This was a 33-year-old atopic patient who had two episodes of pruritic skin lesions with pigmentary sequelae. During the second episode, the lesions were grafted onto the old seats. Each episode occurred 24 h after the leaves of *M. oleifera* were ingested. The diagnosis of FPE due to *M. oleifera* was beyond doubt. Therapeutic and preventive care has been provided. **Conclusion:** The interest of this observation lies not only in its originality but also and above all in the need to research the biochemical constituents of *M. oleifera*, to better know them.

Key words: Fixed pigmented erythema, food origin, *Moringa oleifera*, toxidermy

INTRODUCTION

In the first half of the 20th century, the medical literature published periodic reports describing various food allergic reactions. Since the 1970s, the study of food allergy has become an evidence-based reality, and exponential progress has been made over the past four decades in the study of basic immunopathogenic mechanisms and natural history, as well as in the diagnosis and management of food allergies.^[1] At present, food allergy management involves educating the patient to avoid ingesting the responsible allergen and initiating treatment if ingested.^[2] These food allergies are expressed differently depending on the organ affected. On the cutaneous-mucosal level, the most well-known reactions are represented by pruritus and urticaria (superficial and/or profound).

Drug-induced mucocutaneous reactions (toxidermias) are dominated by fixed pigmented erythema (FPE), Lyell's

syndrome, Stevens-Johnson syndrome, acute generalized exanthematous pustulosis, and maculopapular exanthema. In a study carried out in Benin,^[3] FPE was the leading toxidermy with a hospital frequency of 70%. It is a skin reaction, usually due to medication, remarkable for its circumscribed and extensive nature, its pigmentogenic evolution and its fixity during recurrences. In recent years, food-borne cases of FPE have been described in the literature.^[4-6] However, no case of FPE due to *Moringa* has been described to the best of our knowledge. We report the first case of FPE induced by *Moringa oleifera* in Benin, which seems to be the first case in the world.

CASE SYNOPSIS

A 33-year-old atopic patient consulted for two outbreaks of itchy black spots on the back with extension elsewhere, the first of which occurred 24 h after eating vegetables made

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from *M. oleifera* leaves. The examination had not revealed any notion of taking medication on that occasion. The second outbreak would follow a treatment based on infusion of *M. oleifera* leaves and would have occurred 24 h later. During the second outbreak, the injuries involved both old and new seats. Physical examination found slate gray, non-scaly, oval, scabby macular medallions of varying sizes, with clear limits, all scattered around the neck, back, chest limbs, and abdomen.

Prick tests were performed using a needle and *M. oleifera* leaves. These leaves were rubbed and placed on the sequential pigmented macules. These prick tests were negative.

In the light of the interrogation and physical examination, the diagnosis of FPE at *M. oleifera* was no longer in doubt and was therefore retained [Figure 1].

A treatment based on antihistamines and dermocorticoids of high activity has been introduced; a medical certificate of eviction from consumption of *M. oleifera* has been issued to him.

CASE DISCUSSION

The anamnesis and clinical characteristics of our patient's lesions made it possible to diagnose FPE in *M. oleifera*. The negativity of the prick test does not exclude the etiological diagnosis (ingestion of *M. oleifera*). To the best of our knowledge, this is the first case reported by FPE induced by *M. oleifera*.

In most cases, the FPE is related to the use of medication. However, several cases of FPE that appears to be of food origin have been reported in the literature after ingestion of licorice, traditional Chinese herbs containing ephedrine.^[4] Cases have been attributed to the ingestion of quinine-based soda.^[5] Some patients had positive patch tests in the area affected by this molecule.^[7] Quinine contained in sodas is a natural alkaloid of plant origin, known for its antipyretic, antimalarial, and analgesic properties. The occurrence of FPE after ingestion of hen eggs has also been reported, but their contamination by anti-infective sulfonamides used by poultry farmers has been blamed.^[6] Chinese authors have also reported the occurrence of FPE after ingestion of traditional Chinese therapeutic herbs. These herbs are believed to contain derivatives of ephedrine, a molecule implicated in the occurrence of FPE. Quinine, Chinese therapeutic herbs, and licorice, in addition to their pharmacological properties have allergenic properties that can induce FPE-like reactions.^[4] However, few documents describe FPE likely induced by food origin while referring to the allergenic property of these plants responsible for the delayed hypersensitivity reaction.^[4]



Figure 1: Typical form of fixed pigmented erythema of the back



Figure 2: Leaves of *Moringa oleifera*

The leaves of *M. oleifera* [Figure 2] are used both in food for its nutritional virtues and in phytotherapy for its therapeutic virtues.^[8]

All parts of the tree, from roots to flowers, are used in herbalism.^[9] The population uses its leaves to fight malnutrition because they are rich in vitamins, minerals, amino acids, calcium, and iron.^[10] It is necessary to research the biochemical constituents contained in the *Moringa* to better understand them and prevents certain accidents such as this one.

CONCLUSION

FPE is a toxidermy whose drug origin is certain, but cases attributed to food, can, thus, be considered as a food origin, and are increasingly described in the literature. This is the first case of FPE in *M. oleifera* reported to us. The interest of this observation lies not only in its originality but also and above all in the need to research the biochemical constituents of *M. oleifera*, to better know them.

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