



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)  
[www.jdds.org](http://www.jdds.org)

**ScienceDirect**

Journal of Dermatology & Dermatologic Surgery 18 (2014) 49–51

## Case report

# Non drug related cutaneous hyperpigmentation in a patient with malaria

Fatimah M. Budair\*

*Collage of Medicine, University of Dammam, Saudi Arabia*

*Specialist Dermatologist, King Fahad Hospital of the University, P.O. Box 494, Aldhahran, Saudi Arabia*

Received 25 May 2013; accepted 30 September 2013

Available online 25 October 2013

## Abstract

Although there is an increasing interest in “alternative medicine,” including traditional, nontraditional and homeopathic remedies all around the world, they are not always safe and beneficial and may have adverse effects. We report a bizarre skin discoloration in a sedated patient which caused confusion to the treating team and ended up to be caused by local remedy applied topically.

© 2013 Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

**Keywords:** Hyperpigmentation; Herbal; Remedy; Antimalaria

## 1. Introduction

Herbal remedy is a common practice all over the world; they are less expensive and more available than conventional medications.

They have been used in treating dermatologic disorders for thousands of years in Europe, India and other parts of Asia, and they are still used to treat different skin conditions including; acne, herpes simplex, alopecia, pruritus and psoriasis (Monica et al., 2002).

In addition, they are used to treat a wide variety of chronic diseases like diabetic, arthritis, and acute illness that are readily treated at home like common cold.

Most patients using them think that being ‘natural’, these agents are safe. But this is not always the case; these

agents are not as ‘safe’ as they are perceived to be. Some of their side effects are, in fact, life-threatening, ranging from coetaneous reactions such as allergic contact dermatitis, erythroderma, Stevens–Johnson syndrome and deep skin burn to systemic reactions including; renal, hepatic and neurological compromise (Monica et al., 2002; Ayşe Korkmaz et al., 2000; Krajewski et al., 2010; Hausen, 1985).

Here we present a case of a sedated male in the ICU, on multiple drug treatment who developed a bizarre skin hyper pigmentation, this discoloration was increasing by the days and was a sort of a challenge to the treating team. Eventually, it ended to be a result of application of a local remedy, another side effect that has to be added to the local remedy’s side effects.

## 2. Case presentation

A 24 year old male patient, admitted in the hospital as a case of flaciparum malaria, started on *chloroquine phosphate*, *azithromycin* and *ceftriaxone*.

\* Mobile: +966 503881480.

E-mail address: [dr.fatimabudair@yahoo.com](mailto:dr.fatimabudair@yahoo.com)

Peer review under responsibility of King Saud University.



Production and hosting by Elsevier

2 days later the patient deteriorated and was moved to the ICU as a case of Acute Respiratory Distress Syndrome, he was sedated with haloperidol, kept on a mechanical ventilator and started on *quinine* IV Push. From the second day of admission in the ICU the treating team noticed sudden appearance of dark pigmentation on the patient's back.

The pigmentation was increasing involving a larger area of the patient's back and upper arms day after day. The dermatology team was consulted and they noticed non scaly hyperpigmented brownish patches involving the upper back, and the neck (Fig. 1a).

Next morning a new discoloration appeared involving the upper arm.

When the caring nurses were asked regarding this pigmentation, they said it increased after the visiting relatives left the patient. Since the patient was sedated, and on multiple drug treatment, a differential diagnosis of drug induced hyperpigmentation, systemic disease induced hyperpigmentation and topical medication applied by relatives was made.

The nurses and the relatives denied applying any creams or local therapy to the patient.

On trying to remove the discoloration by an alcohol swab, it was not removed, but when we used aqueous swab, the discoloration was removed totally!

When the relatives were asked again about applying anything they denied.

The patient improved and was extubated and moved to the medical ward.



Fig. 1a. Non scaly hyperpigmented brownish patches involving the upper back, and the neck.



Fig. 1b. After 2 weeks of follow up, completely normal skin without any abnormal discoloration.

At two weeks follow up, the patient's skin was completely normal with no abnormal discolorations (Fig. 1b).

### 3. Discussion

In Saudi Arabia herbal remedies are widely used by people to treat several diseases including; leukemia and other forms of cancer, obesity, diabetes mellitus, rheumatic disorders, skin pigmentation and for male sexual activity enhancement (Bogusz et al., 2002). Large percentages of herb users in Saudi Arabia do not inform their doctors regarding the use of herbs which may cause confusion (Al-Rowais, 2002).

In Mecca (western province, SA) 1039 diabetic patients were interviewed regarding the belief and usage of herbal remedies, and the results showed that 15.6% of these patients believe that it is safe and 25.8% think that remedies may be beneficial. Moreover, one third of them confess that they use herbal remedies to treat their condition (Al-Saedi et al., 2003).

Since remedy usage is often associated with denial by the patient as mentioned above, dermatologists often find it difficult to diagnose and treat the complications resulting from their application to skin.

In this case, the first impression we had when we examined the patient was related to the antimalarial drugs he received, as these medications have a well-established association with epidermal pigmentation. The antimalarial discoloration appears most frequently in the pretibial areas of the lower extremities in addition to the entire nail bed, nose, cheeks, forehead, ears, and oral mucosa (Granstein and Sober, 1981; Kleinegger et al., 2000), but the discoloration which this patient had did not have this typical distri-

bution. Moreover, the sudden appearance of the discoloration and the rapid progression of the pigmentation raised the possibility of something else other than the antimalarial drug.

The pigmentation was removed totally by an aqueous swab, revealing that it was a result of something applied to the skin. Although the patient's relatives denied applying anything, it was clear that someone was applying this preparation on his body thinking that it may help in treating his condition.

There was no more discoloration found on patient's body after we removed the stain by water and after informing the nurses to watch the visitors and inform the relatives not to touch or apply anything on the patient's body as this may be harmful to the patient's health and confuse the treating team.

Should this act be considered as a form of factitious or coetaneous artifactual diseases? This is unlikely, since this action by the relatives did not have any psychosocial or emotional basis to the action, such as attention seeking; also there was no obvious evidence of secondary gain or an attempt to prolong the hospital stay and According to the American Psychiatric Association, the DSM-IV TR (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision) criteria for factitious disorders are: Intentional production or feigning of psychological or physical signs or symptoms, Assumption of the sick role as motivation for the behaviour, and Absence of external gain, such as avoiding legal responsibility or improving physical wellbeing, as in malingering (American Psychiatric Association, 2000).

This case did not fit the criteria for factitious disorders and we believe that the local application which was applied

to the patient's skin was a locally prepared remedy to help the patient in getting better sooner specially as this habit is not uncommon in the region and that this side effect should always be in mind when making a differential diagnosis of skin discoloration.

## References

- Al-Rowais, N.A., 2002. Herbal medicine in the treatment of diabetes mellitus. *Saudi Med. J.* 23 (11), 1327–1331.
- Al-Saeedi, M., Elzubier, A.G., Bahnassl, A.A., Al Dawood, K.M., 2003. Patterns of belief and use of traditional remedies by diabetic patients in Mecca Saudi Arabia. *East. Mediterr. Health J.* 9 (12), 99–106.
- American Psychiatric Association, 2000. *Diagnostic and Statistical Manual of Mental Disorders*, forth ed. APA, Washington, DC.
- Bogusz, M.J., Al Tafial, M., Hassan, H., 2002. How natural are 'natural herbal remedies'? A Saudi perspective. *Adverse Drug React. Toxicol. Rev.* 21 (4), 219–229.
- Granstein, R.D., Sober, A.J., 1981. Drug-and heavy metal-induced hyperpigmentation. *J. Am. Acad. Dermatol.* 5, 1–18.
- Hausen, B.M., 1985. Laurel allergy. Cause, effect and sequelae of the external application of a so-called nature remedy. *Dtsch. Med. Wochenschr.* 110 (16), 634–638 (German).
- Kleinegger, C.L., Hammond, H.L., Finkelstein, M.W., 2000. Oral mucosal hyperpigmentation secondary to antimalarial drug therapy. *Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod.* 90, 189–194.
- Ayşe Korkmaz, M.D., Ümit Şahiner, M.D., Murat Yurdakök, M.D., 2000. Chemical burn caused by topical vinegar application in a newborn infant. *Pediatr. Dermatol.* 17 (1), 34–36.
- Krajewski, Aleksandra, Garg, Manish, Chandawarkar, Rajiv Y., 2010. Topical herbal remedies: research opportunities for plastic surgeons. *J. Plastic Reconstr. Aesthetic Surg.* 63 (6), 896–905.
- Monica, K., Bedi, M.D., Philip, P., Shenefelt, M.D., 2002. Herbal therapy in dermatology. *Arch. Dermatol.* 138 (2), 232–242. <http://dx.doi.org/10.1001/archderm.138.2.232>.