European Review for Medical and Pharmacological Sciences 2021; 25: 4653-4654

Letter to the Editor

Cutis laxa after Mariana dam disaster in Brazil

Dear Editor,

A 44-year-old female with a previous history of atopy and urticaria since her adolescence, was exposed to the bathwater from the region of the dam accident (November 2015) in Mariana, Minas Gerais, Brazil. She felt skin ardency during the shower, causing urticaria worsening, diffuse erythema, and mild skin pain. Although she had changed all the cosmetics, she did not observe any improvement. She realized that in 3 months, her appearance became older. She reported a sequence of symptoms after the bath as erythema, pruritus, and mild pain on her skin, and because of the process, she noted a skin loosening. She denied fever or any other systemic symptom. Moreover, no other relatives had this condition. She was submitted twice to bilateral blepharoplasty due to falling eyelids. Her general physical examination did not reveal any abnormality. The dermatological examination showed senile appearance, wrinkled, flabby skin, an inclination of the eyelid commissures, enlarged nose, flattened and with the short columella, enlarged upper lip, and large ears. The skin was pendulous and inelastic. She had hair thinning over her frontal region, without androgenic characteristics, and alopecia on the eyebrows, limbs, and armpits (Figure 1). Skin biopsy revealed marked loss of oxitolanic, elauninic and elastic fibers. She brought an old photograph of her, from August 2014 for comparison, one year before the facial change (Figure 1). Her parents were not consanguineous. Laboratory tests revealed normal cell blood count, biochemistry, and thyroid hormones. C-reactive protein 6.57 mg/dL [normal range (nr): < 1 mg/dL], and ESR 27 mm/1st hour (nr: < 10 mm/1st hour). Antinuclear antibody, rheumatoid factor, and all other autoantibodies were negative. The Angiotensin converter enzyme levels were normal. Chromium 0.4 mcg/L (nr: < 3.4 mcg/L), zinc 59 mcg/dL (nr: 58-120 mcg/dL), lead 4.4 mcg/dL (nr: < 40 mcg/dL), copper 99.6 mcg/dL (nr: 80-155 mcg/dL), Serologies for the infectious disease were absent. Thorax and abdomen computed tomographies were normal. She received a diagnosis of Cutis laxa (CL). She was treated with hydroxyzine 25 mg three times a day, dapsone 100 mg/day, and hydroxychloroquine 400 mg/day, with urticaria improvement, although no change in the CL manifestations was noted. She moved from her city to a non-contaminated area and noted improvement of urticaria.

CL is a sporadic disease characterized by loosening of the skin due to the loss of elastic fibers with two primary forms: genetic and acquired[1]. About 50% of acquired cutis laxa occurs due to various conditions, including inflammatory skin diseases (urticaria, lupus erythematosus, erythema multiforme), hypersensitivity reactions, complement deficiency, alpha-1 antitrypsin deficiency, multiple myeloma, sarcoidosis, and drug reactions to penicillamine or isoniazid1. Our patient developed urticaria, and then, CL after an environmental accident with contaminated water with several minerals and substances from mining. It is the first case described after this kind of accident.

The Fundao Mining Tailings Dam in Mariana District has collapsed in 2015 and caused the most significant environmental disaster in Brazil[2]. A study[2] has found an increase in levels of aluminum, arsenic, cadmium, copper, lead, manganese, and nickel, and zinc deficiency in urine and blood samples from 11 residents from that region. The absence of high levels of these metals in our patient is explained since she did not drink the water but only used it to take showers. The relationship between the dam disaster and the beginning of the skin disease of our patients is substantial since she started allergy and urticaria worsening after using the water originated from the contaminated river by the disaster.

Corresponding Author: Jozélio Freire de Carvalho, MD; email: jotafc@gmail.com

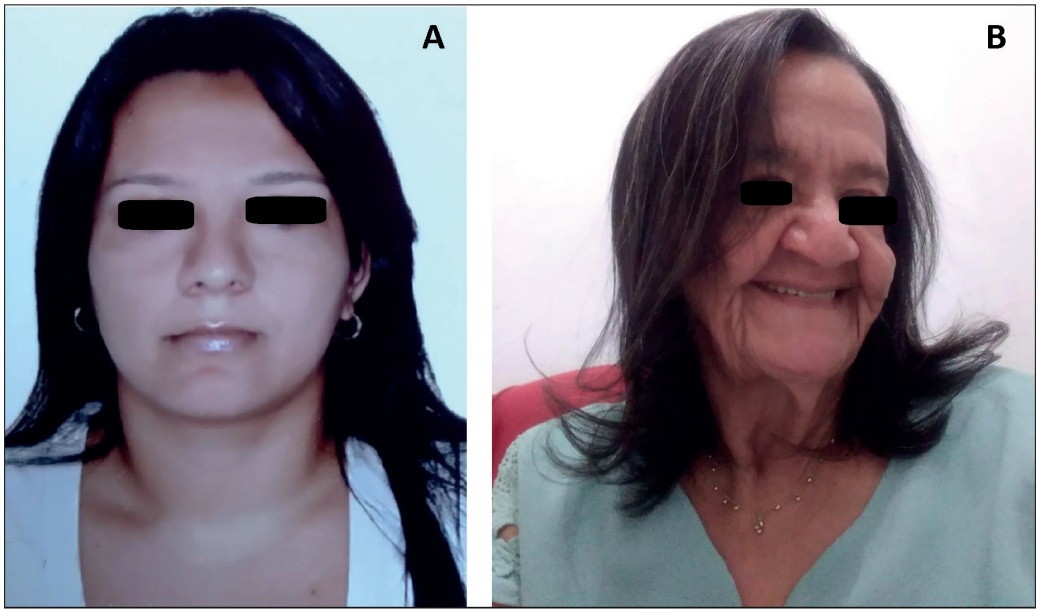

Figure 1. Photographs before (**A**) and after (**B**) the alterations of the face showing a senile appearance, wrinkled, flaccid skin, an inclination of the eyelid commissures, enlarged nose, flattened and with the short columella, and enlarged upper lip.

Conflict of Interest

The Authors declare that they have no conflict of interests.

Funding Information

No funding sources.

Data Availability Statement

All data areavailable at request.

Ethical Statement

An informed consent was obtained from the patient. Our local Ethical Comittee does not evaluate case reports, it is needed just the informed consent.

Authors' Contribution Statement

URA: conception, data analysis, revision. JFC: data analysis, writing, revision, submission.

References

1) Kim SM, Lee SY, Kim JB, Choi HM, Ro BI, Cho HK, Ko EJ. A case of generalized acquired cutis laxa. Int J Dermatol 2018; 57: 1369-1371.
2) Vormittag E, Saldiva P, Anastacio A, Barbosa F Jr. High levels of metals/metalloids in blood and urine of residents living in the area affected by the dam failing in Barra Longa, District, Brazil: A preliminary human biomonitoring study. Environ Toxicol Pharmacol 2021; 83: 103566.

U. Rebouças Athayde[1], J.F. de Carvalho[2]

[1]Cardiopulmonar Hospital, Salvador, Bahia, Brazil
[2]Institute for Health Sciences, University of Bahia, Salvador, Bahia, Brazil