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Iron Skin Staining: A Rare but Permanent Complication Following IV Iron Infusion

Hiperpigmentação Cutânea por Deposição de Ferro: Uma Complicação Rara, mas Permanente Após Administração Intravenosa de Ferro

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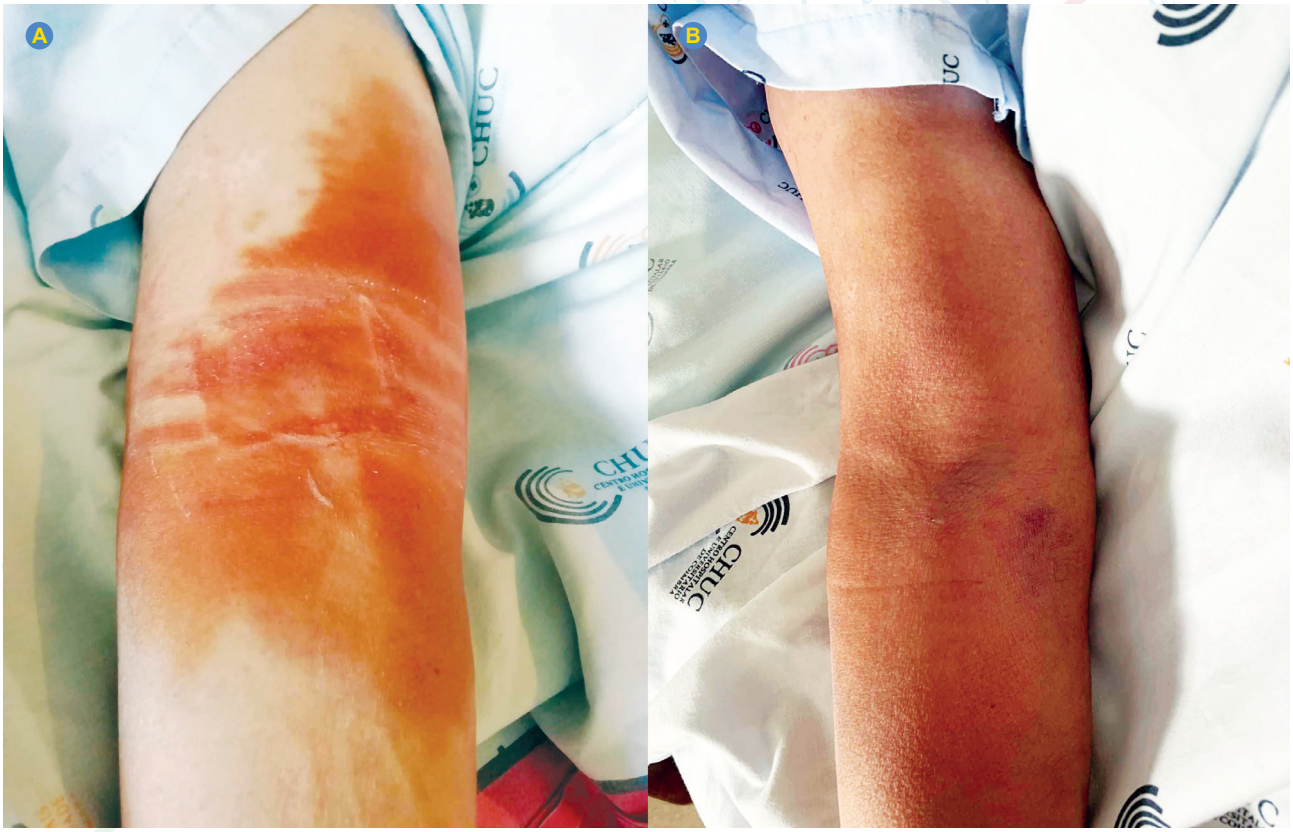

Figure 1 – Iron skin staining after ferric carboximaltose infusion: immediately after the infusion, diffuse erythema and edema were observed in the infusion region and surrounding areas (A). Iron staining showing a brownish colour persistent after six months: changes evolved over the following days into a generalized hyperpigmentation of that area, with relatively well-defined edges, along with resolution of the associated edema (B).

A 68-year-old female patient presented to the emergency department with dyspnea and asthenia. She had a history of heart failure induced by drug cardiotoxicity (trastuzumab). On physical examination, she displayed peripheral edema and jugular venous distension. Bloodwork revealed elevated levels of NT-proBNP (16568 pg/mL), decreased hemoglobin (10.8 g/dL), serum ferritin (41 µg/dL), and transferrin saturation (18%). We treated the patient with intravenous diuretics, levosimendan, and ferric carboxymaltose perfusion. The latter caused diffuse erythema with edema at the injection site

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(Fig. 1A), which was suggestive of iron skin staining (ISS), characterized by persistent hyperpigmentation (Fig 1B).

Iron skin staining is a rare and potentially irreversible side effect of parenteral iron preparations due to cutaneous and subcutaneous tissue extravasation.[1] The likelihood of ISS can be minimized by strictly following transparent administrative and monitoring protocols, ensuring comprehensive staff training, and offering patient information.[2,3] Referral to a dermatology clinic for treatment with a nanosecond Q-switched laser or a picosecond laser may allow the hyperpigmentation to be attenuated.

AUTHOR CONTRIBUTIONS

TCS: Conception, design, writing and critical review of the manuscript.
AMP: Conception and writing of the manuscript.
SM: Conception and critical review of the manuscript.
All authors approved the final version to be published.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2024.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

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