Hyperpigmentation of Legs and Feet After Use of Minocycline for a Wound Infection

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Statement of purpose

Cutaneous hyperpigmentation is a recognized adverse effect of long-term minocycline therapy. The skin discoloration is cosmetic and is not associated with other adverse clinical features. The hyperpigmentation is a result from deposition of insoluble minocycline-iron complexes and can appear as a blue-grey or even a muddy brown in color. This risk of hyperpigmentation increases with longer duration of use of the antibiotic.

Literature Review

Hyperpigmentation due to minocycline is a known effect of minocycline therapy. In general, pigmentation results from long term administration of minocycline at cumulative doses greater than 100mg. When this side effect develops it most frequently develop on the shins or arms, but can also occur on the face. There have been three distinct types of minocycline induced hyperpigmentation that have been described in the literature: Type I- blue-black/grey pigment on the face in areas of scarring or inflammation associated with acne; Type II- blue-grey pigment on normal skin on the shins and forearms; Type III- diffuse muddy-brown discoloration in areas of sun exposure. Even with cessation of Minocycline, skin discoloration may take months to years to improve or may even continue to persist.

Case Series

A 76 year old patient was being followed for wound care with wounds secondary to venous insufficiency. He began to develop dark discoloration on his legs after being started on long term minocycline therapy for chronic osteomyelitis to his sacrum.

Case Series cont.

The discoloration was found to be caused by long term, high dose of minocycline therapy. The patient continued on the minocycline therapy after the diagnosis, due to the coverage of staphylococcal osteomyelitis, oral availability, low rate of resistance, and bioavailability. The hyperpigmentation was isolated to affecting the pigmentation of his extremities.

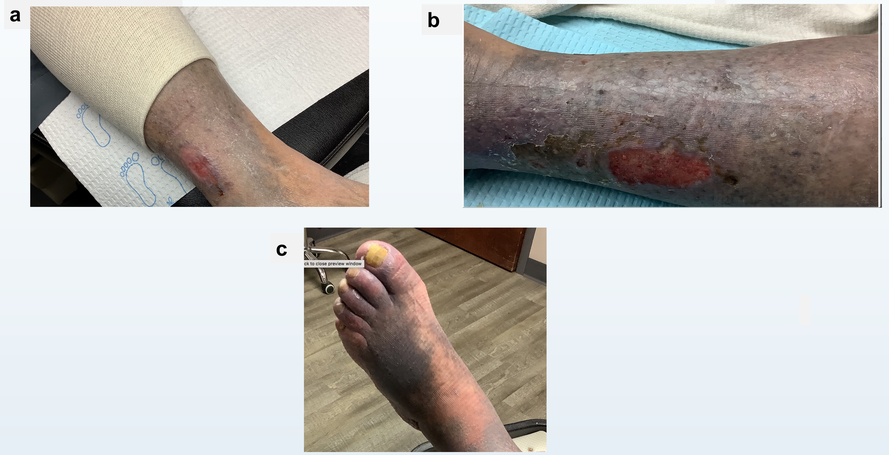

Figure 1 . Representative of hyperpigmentation to his lower extremities. (a) Right lower leg hyperpigmentation (b) Venous insufficiency wound with hyperpigmentation to the left lower leg (c) Blue-Grey hyperpigmentation of the left foot.

Analysis &Discussion

Treatment for minocycline-induced hyperpigmentation can be difficult. Even with discontinuation of minocycline, skin hyperpigmentation may persist. Many patients choose to continue taking the medication due to the associate risk of discontinuing the medication and limited availability of alternative treatment. However, the patient should be informed that additional areas of the body can become affected with additional use. It is important when evaluating these patient's to exclude other possible causes of hyperpigmentation to the skin including Addison disease, diabetic dermopathy, hyperpigmentation from hemochromatosis, and venous stasis hyperpigmentation. [3] Minocycline use has decreased in recent years due to concerns of hyperpigmentation, cost, and teratogenic effects. Although, it is still used today due to increased antibiotic resistance in the community.

Analysis & Discussion

Although, hyperpigmentation changes are rare, common adverse effect of the medication include nausea and dizziness. Patients on minocycline therapy should also be monitored for hepatotoxicity, and either initiation or worsening of SLE.

Although it is not harmful, hyperpigmentation changes due to long term treatment with high dose minocycline can take months to years to fade after the discontinuation of the medication and sometimes never improve. It is important to educate our patient's about the possible complications of the medication and to screen our patient's yearly if they are on long term suppressive therapy.

References

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