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PHOTO QUIZ

Bluish-grey pigmentation of the facial skin and lower legs

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CASE REPORT

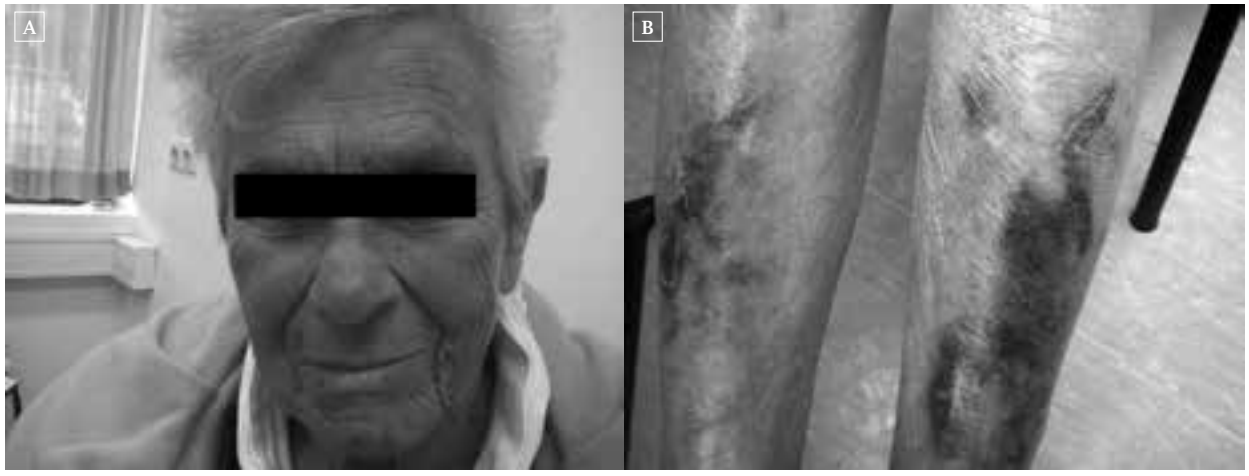
A 77-year-old woman was referred to our outpatient clinic because of bluish-gray pigmentation of the facial skin and lower legs (*figures 1A* and *1B*).

Her medical history revealed hypertension, hypercholesterolaemia and chronic obstructive pulmonary disease Global Initiative for Chronic Obstructive Lung Disease (Gold) classification 3. Home medication included metoprolol, barnidipine, irbesartan, omeprazole and gemfibrozil. Her COPD medication included acetylcysteine, inhaled steroids, short-acting beta-agonists and anticholinergics. Due to recurrent disease exacerbation complicated by bronchiectasis, she had additionally been taking prophylactic minocycline 100 mg/day for the past two years. On physical examination the patient had a temperature of 36.7°C and diffuse ronchi in both lungs. Skin examination revealed blue-grey hyperpigmentation in the zygomatic region, nose and lower legs. She had no lymphadenopathy. Laboratory findings showed a subclinical hypothyroidism. Complete blood counts, inflammation parameters, liver and kidney function tests were not remarkable.

WHAT IS YOUR DIAGNOSIS?

See page 142 for the answer to this photo quiz.

Figure 1. *A) Bluish-grey pigmentation of the facial skin and B) irregular patchy blue-grey pigmentation in the pretibial regions*



ANSWER TO PHOTO QUIZ (PAGE 138)

BLUISH-GREY PIGMENTATION OF THE FACIAL SKIN AND LOWER LEGS

DIAGNOSIS

The bluish-grey pigmentation was caused by the tetracycline derivate minocycline. Pigment disorders are well-recognised adverse effects of tetracyclines, while tetracyclines and doxycycline cause mainly teeth and oral cavity pigmentation. Skin hyperpigmentation is the most common adverse reaction to long-term use of minocycline and it is reported to occur in about 3-15% of patients taking cumulative doses greater than 100 g.[1] Older age and diagnosis of rheumatoid arthritis or rosacea are more often associated with this adverse reaction. However, this can be explained by higher cumulative minocycline doses in these groups of patients.[2]

The exact mechanism of minocycline-induced pigmentation is unknown. Minocycline and its iron-chelated derivates have been identified in pigmented skin and in insoluble complexes within the granular pigment deposits in dermal macrophages of affected areas.[3] There are three types of minocycline-induced pigmentation.[2] Type I is characterised by dark-blue pigmentation in areas of inflammation and scarring such as those frequently described within resolving acne lesions. Type II pigmentation presents as blue-black patches in the lower legs, ankles and arms. Type III is a symmetric and generalised pigmentation on sun-exposed area and can appear all over the body. In our case pigmentation was thought to be of type II. Histopathologically, type I and II lesions demonstrate iron-, melanin- and minocycline-containing granules in the dermic macrophages. Type III lesions contain no iron and are characterised by increased melanin in basal keratynocytes.[3]

Type I pigmentation is independent of duration of exposure and dosage while type II and III appear after a long period of drug exposure. The diffuse pigmentation of the sun-exposed areas may remain permanently while type I and II pigmentation may vanish upon cessation of minocycline, though it can take months to years to fade up. Although minocycline-induced pigmentation does no harm, the drug should be discontinued if this adverse event occurs. In this case, this patient should have been switched to an alternative to minocycline much earlier. In general, patients receiving minocycline for long periods of time should be informed about the possible occurrence of hyperpigmentation. In fact, good patient education and early recognition of this side effect can prevent further exposure to the drug and consequent development of a florid stage of this dermatosis.

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