

## Case study

## Subclinical leprosy manifesting as a reversal reaction after LHRH agonist administration

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A 65-year-old man was diagnosed with high-risk localized prostate cancer. The treatment plan consisted of prostate radiotherapy and hormone suppression with a LHRH agonist (goserelin 10.8 mg

subcutaneously every three months) for 36 months. The only medication the patient had received previously was losartan for hypertension. Seventy-two hours after the first goserelin dose, he presented with skin lesions characterized by erythematous-infiltrative plaques on his face, elbows, upper torso, and forearms (Fig. 1). The patient had never noticed any type of skin lesion previously. He was then referred to Dermatology and slit-skin smears microscopy was performed, but no Acid-Fast Bacilli (AFB) were found. Further workup led to a skin biopsy that revealed the presence of *Mycobacterium leprae* whose features were consistent with Borderline-borderline leprosy with reversal (Leprosy type 1) reaction with a few AFB seen (Fig. 2). He was treated with multibacillary polychemotherapy (Rifampin, dapsone and clofazimine).

Although the use of goserelin was considered a possible trigger for leprosy reaction, the medical team did not interrupt the hormone blockade. Soon after the patient received the second goserelin dose, the skin lesions became more erythematous, and he also presented with peripheral neuropathy (acute neuritis) on his right elbow and feet, which could lead to permanent nerve damage. Therefore, he was treated with prednisone 0.5 mg/kg and the lesions resolved. After four



Fig. 1. Erythematous lesion on right-side of patient's face.

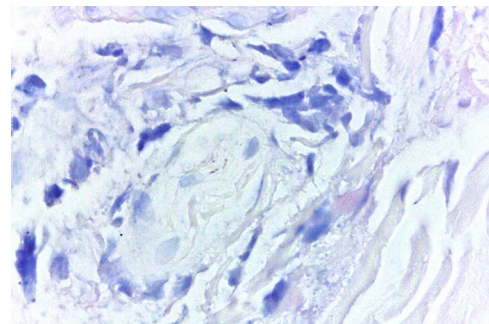


Fig. 2. *Mycobacterium leprae* found in skin biopsy of facial lesion.

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months, the patient remained on polychemotherapy, prednisone and anti-hormonal therapy, without skin lesions recurrence.

This is the first report of leprosy reaction after hormone blockade. The reaction is apparently paradoxical, since it appears that there is an inverse correlation between testosterone levels and anti-inflammatory cytokines [1,2]. Leprosy reactions can occur after drug use, the most common being antimicrobials, potassium iodide and vitamin A [3,4]. The hormone suppression may have triggered a reversal reaction in this patient, who previously had a subclinical leprosy.

#### Conflicts of interest

None to disclose.

#### Author's contributions

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#### Ethical issues

The patient signed an Informed Consent allowing publication of his case and pictures.

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