

Cutaneous leishmaniasis complicated adalimumab treatment

Abstract

Introduction: The use of anti TNF alpha has become common in chronic arthritis, particularly in juvenile idiopathic arthritis. However this therapy exposes to multiple risks especially infectious ones. We report a case of cutaneous leishmaniasis occurred in a patient treated with adalimumab in Tunisia.

Case report: The patient is a 27-year-old man, and, since the age of 5 years, he suffers from a rheumatoid-factor-negative Polyarthritis. He was from the north-east of Tunisia, area known by sporadic cutaneous leishmaniasis. He had a cutaneous leishmaniasis in 2001 under orbital that has been treated locally by intralesional injection of pentavalent antimony (Glucantime) with a good evolution and without scarring.

Initially he was treated, for the juvenile arthritis, by methotrexate then Leflunomide without improvement. Therefore an anti-TNF α therapy was indicated in 2011. After 30 months of starting treatment with adalimumab, the patient presented a small red area, painless and non-pruriginous unique lesion under orbital, measuring 1cm of diameter. The correct diagnosis of cutaneous leishmaniasis was made by a biopsy, which revealed numerous *Leishmania* amastigotes within macrophages. He had intra-lesional injections of Glucantime without stopping treatment with adalimumab. The outcome was favorable but long, and without leaving skin scar.

Conclusion: The TNF α is an important cytokine in the immune response against intracellular bacteria development, which explains the high risk patients on anti-TNF α of developing leishmaniasis, especially in endemic areas. Leishmaniasis complicating anti TNF treatment is rare but not exceptional.

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Introduction

The tumor necrosis factor alpha is a very important cytokine in the immune-mediated response against intra cellular pathogens such as leishmania. This parasite, transmitted by an insect, is responsible of cutaneous or visceral leishmaniasis, depending to leishmania specie. In Tunisia, there are three clinico-epidemiological forms of cutaneous leishmaniasis: sporadic cutaneous leishmaniasis (SCL) in the north, chronic cutaneous leishmaniasis in the south-east, and zoonotic cutaneous leishmaniasis in the centre and the south-west. The SCL, caused by leishmania infantum, is characterized by a unique lesion in the face.

The use of anti TNF alpha has become common in chronic arthritis, particularly in juvenile idiopathic arthritis. However this therapy exposes to multiple risks especially infectious ones. We report a case of cutaneous leishmaniasis occurred in a patient, with juvenile idiopathic arthritis, and treated with adalimumab in Tunisia.

Case report

The patient is a 27-year-old man, and, since the age of 5 years, he suffers from a rheumatoid-factor-negative Polyarthritis. He was from the north-east of Tunisia, area known by sporadic cutaneous leishmaniasis. He had a cutaneous leishmaniasis in 2001 under orbital that has been treated locally by intralesional injection of pentavalent antimony (Glucantime) with a good evolution and without scarring.

Initially he was treated, for the juvenile arthritis, by methotrexate then Leflunomide without improvement. Therefore an anti-TNF α therapy was indicated in 2011. He received 40mg of adalimumab every 2 weeks. After 30 months of starting treatment with adalimumab,

the patient presented a small red area, painless and non-pruriginous unique lesion under orbital, measuring 1cm of diameter. The correct diagnosis of cutaneous leishmaniasis was made by a biopsy, which revealed numerous *Leishmania* amastigotes within macrophages. No visceral localization was associated (blood cell count, renal, hepatic and cardiac functions, were normal's). He had intra-lesional injections of Glucantime without stopping treatment with adalimumab. The outcome was favorable but long, and without leaving skin scar. This skin infection had no effect on the activity of inflammatory arthritis patient, who was in remission.

Discussion

Transmitted to humans by female phlebotomine sand flies, *leishmania* is an intracellular parasite which develops in the mononuclear phagocytic system.

Depending to the strain, *L. infantum* will cause cutaneous or visceral leishmaniasis. Tumor necrosis factor α (TNF- α) has an important role in host defense against infections, especially against intracellular organisms. Therefore, patients treated with anti TNF α have a high risk of severe infections; this risk increase also with the dose of treatment.¹ Opportunistic infections appear greater in the first year of anti TNF treatment, especially in the first months. Concerning the type of anti TNF α , more infectious complications were reported in patients using Infliximab than those using adalimumab or etanercept.^{2,3}

In 2009 a Greek study regrouped all the cases of leishmaniasis in patients with autoimmune rheumatic diseases and treated with anti TNF alpha. Fifteen case reported were retrieved and all of them occurred after the introduce of anti TNF therapy. Among them, only 2 patients had cutaneous leishmaniasis.⁴ Visceral type has reported

in patients using entanercept,⁵ infliximab,⁶⁻⁸ and adalimumab.⁹ After 2009, two other cases of cutaneous leishmaniasis were reported, one of them treated by adalimumab.^{10,11}

Cutaneous leishmaniasis can be asymptomatic or manifest slightly in immunocompromised patients, however it can be disfiguring. This cutaneous infection responds to Glucantime therapy but can leave an unsightly scar, or be complicated by visceral localization. Occurring in immunocompromised patients, leishmaniasis outcome can be longer and it also may disturb the inflammatory arthritis.

Therefore, we may need in the future to detect latent leishmaniasis before initiation of anti-TNF treatment. We need also to strict control patients with anti TNF antibody and prevent leishmaniasis acting in areas at risk.

Acknowledgments

None.

Conflicts of interest

None.

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