Development of diffuse psoriasis with alopecia during treatment of Crohn’s disease with infliximab

Psoriasis diffus alopéciant chez un patient traité par l’infliximab pour une maladie de Crohn

Antitumor necrosis factor (TNF) agents are used in a variety of chronic inflammatory diseases, including psoriasis. Paradoxically several cases of new-onset or worsening of psoriasis have been reported with this therapeutic agent. Although a few cases of psoriasis of the scalp have been reported [1], psoriasis associated with alopecia is very rare. Only two cases have been reported with adalimumab [2] and none with infliximab.

We report a case of diffuse psoriasis resulting in extensive alopecia in a 32-year-old man being treated with infliximab for Crohn’s disease.

Observation

A 32-year-old man, with an 8-year history of Crohn’s disease, began a second course (first of three injections on 2000) of infliximab (500 mg, every 8 weeks) in 2007 following poor clinical results with azathioprine monotherapy. Although infliximab was very effective in treating Crohn’s disease 10 months after it was begun, the patient developed palmoplantar pustulosis.

Despite treatment with topical steroids, the pustules progressively extended and diffuse erythematos scaly plaques developed over the entire body (abdomen, trunk, and extremities), with a secondary complication of inflammatory pustulosis on the scalp, resulting in extensive alopecia.

The physical examination revealed diffuse erythematous scaly plaques on the body and the scalp with hair loss (Fig. 1).

Two skin biopsies were performed, and showed a minimal lymphoid perifollicular infiltrate with follicular atrophy and a parakeratosis and superficial dermic perivascular infiltrates on the scalp and back respectively. These findings were consistent with psoriasis.

Because the skin lesions covered more than 5% of the body surface the recommendations by Collamer were followed concerning the administration of topical therapy and the withdrawal of anti-TNF-α [3]. Crohn’s disease remained stable with azathioprine. Skin and scalp lesions cleared up with complete hair regrowth 4 weeks after withdrawal of infliximab, and daily topical administration of clobetasol propionate (Fig. 2). The patient showed no recurrence after 1 year follow up.

Discussion

The estimated prevalence of TNF-α antagonist-induced psoriasis is reported to be 1.5%–5%.

A systematic review of the literature [4–6] was performed with the PubMed and Medline databases searching the index terms “tumor necrosis factor alpha inhibitor”, combined with “psoriasis”. More than 200 cases of anti-TNF-associated psoriasis were reported between 1995 and 2008. One hundred and thirteen of these cases were associated with infliximab treatment. Most of the cases were reported in patients with rheumatological disease, but cases in patients with inflammatory bowel disease (IBD), are not rare (15% of the total number of reported cases) [4]. Recent physiopathological studies have shown that the mechanism of this paradoxical effect concerns the interaction between TNF-α and interferon-alpha (IFN-α).

Plasmocytoid dendritic cells have been increasingly found in early psoriatic skin lesions and seem to initiate psoriasis via IFN-α production [2]. Clinical studies have shown that there is increased IFN-α expression in the psoriatic lesions of patients who have been administered anti-TNF-α therapeutics [4]. IFN-α subsequently upregulates the expression of CXCR3 on T cells, which leads to recruitment of T cells into the skin [2]. It also induces maturation and stimulation of myeloid dendritic cells which activates the secretion of proinflammatory cytokines [2,7]. TNF-α is known to decrease IFN-α production by two mechanisms:
by inhibiting the maturation of plasmocytoid dendritic cells and subsequently suppressing IFN-α release [2]. Therefore, blockade of TNF-α may lead to uncontrolled and unlimited production of IFN-α that may cause the onset of psoriasis.

Palmoplantar pustulosis was the most common clinical presentation. [3].

Very rare cases of psoriasis of the scalp were recently reported with anti-TNF [1], with associated alopecia only reported in two cases with adalimumab [2] and none with infliximab.

Although this is the third reported case with an anti-TNF, to our knowledge it is the first case with infliximab with a favourable outcome after withdrawal of the product.

Other causes were considered in our patient: an infectious origin was unlikely because of the absence of fever, inflammatory syndrome and germ on biopsy. There was no reported medication or intake of toxic substances, and no abnormalities of the thyroid. The diagnosis of Alopecia areata was excluded, because there were no psychological triggers, the lesions were scaly and not limited, and follicular atrophy was found on the biopsy. The absence of pruritus and papules and the histological results did not suggest a diagnosis of eczema and lichen plan. Lupus was excluded because of the absence of antinuclear antibodies and normal immunoelectrophoresis.

The physiopathological mechanism explaining alopecia from psoriatic scalp lesions has not been elucidated known, and requires further studies and a new approach in the understanding of this mechanism.

Conclusion

TNF-α antagonists such as infliximab have proven their efficacy in the treatment of rheumatoid arthritis, spondylarthitis, psoriatic arthritis, inflammatory bowel diseases, and also in psoriasis. Several side effects are known, such as an increased risk of infection and the development of malignancies. Other side effects which are less serious, but very distressing to the patient are cutaneous and include the development or exacerbation of psoriasis.

The occurrence of alopecia associated with scalp psoriasis is very rare with anti-TNF therapy, and has not been reported until now with infliximab.

The purpose of this article is to inform clinicians about this new side effect which can be quite upsetting to patient and to show that complete recovery is possible even if dermatological lesions are extensive, if therapy is discontinued.

Références


