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Peer reviewed

Successful outcome of psoriasis in a laryngeal cancer patient treated with ixekizumab, a possible beneficial treatment for both pathologies

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To the Editor:

Several new systemic agents are currently available for psoriasis treatment and they can be selected according to patient comorbidities. However, in patients with cancer, psoriasis systemic treatment can be a challenge [1].

We present a 59-year-old man with severe psoriasis and laryngeal squamous cell carcinoma treated with ixekizumab (IXE). At age 24, our patient developed psoriasis and he received topical treatments, narrow-band ultraviolet B phototherapy, oral acitretin, cyclosporine, etanercept, and methotrexate without a satisfactory treatment response. On 2017, adalimumab was started, achieving Psoriasis Area and Severity Index (PASI) 0 and Dermatology Life Quality Index (DLQI) 0. On July 2019, he was diagnosed with laryngeal squamous cell carcinoma (T3 N0 M0), (**Figure 1**). Adalimumab was stopped and laryngeal cancer was treated with three cycles of cisplatin and radiotherapy. He developed a flare of his psoriasis off systemic medication and reached a PASI 23, (**Figures 2, 3**) and DLQI 15. Apremilast was initiated in view of his oncological disease and desire to avoid immunosuppression. However, at six months of treatment it was stopped because of a lack of efficacy. On the basis of some literature evidence of IXE safety, on November 2019, it was started (160mg on day 0 and 80mg every two weeks) and a rapid cutaneous improvement response was obtained. On February 2020, he required an urgent



Figure 1. Axial computed tomography image of the neck showing a left tumoral thickening which affects aryepiglottic fold, pyriform sinus, true and false cord.

tracheotomy because of acute laryngeal edema and his IXE treatment was interrupted. Once improved, IXE was reintroduced and laryngeal biopsy ruled out the presence of residual neoplasm. One year later, the patient has PASI 0 and the laryngeal cancer is in complete response.

Ixekizumab is a high-affinity monoclonal antibody that selectively targets interleukin (IL)-17A and is indicated to treat patients with moderate-to-severe plaque psoriasis. The UNCOVER-3 study has demonstrated that IXE shows a high level of efficacy



Figure 2. *Infiltrated psoriasiform plaques symmetrically located on knees and quadriceps.*



Figure 3. *Large erythematous and desquamative plaques on arms.*

and a good safety profile in patients with moderate psoriasis [2]. There are no reports of the association between malignancy and anti-IL17 psoriasis treatments, although, the current recommendation is to wait five years before starting biological therapy in patients with a history of a solid cancer [1].

Laryngeal cancer is the eleventh most common cancer in humans and greater than 95% of all

laryngeal malignancies are squamous cell carcinoma (SCC). Inflammation is related to SCC development. This can be explained by the induction of a chronic inflammatory microenvironment as a result of exposure to risk factors such as tobacco, acid reflux, or alcohol. The IL23/T helper 17 cell is a pathway characterized by the production of IL17A and IL22 [3,4]. Recently, some studies have shown that IL17A [3] and Th17 cells [4] levels are significantly higher in patients with a SCC than in others with benign laryngeal disease. However, no association was observed between TNM staging and Th17 cell level [4]. In the same way, IL17 has been implicated in other human cancers such as colon, ovary, lung, and head and neck [3]. Moreover, recent *in vitro* studies have shown that IL17 could inhibit the apoptosis of laryngeal cancer cells [5]. This suggests that inhibitors of this pathway could treat patients with moderate-severe psoriasis with a high impact on the quality of life and potentially have a positive effect on the concomitant neoplasm. However, more studies are needed to determine the real impact of anti-IL17 agents on laryngeal cancer treatment.

In the literature, we found only two reports of biologic psoriasis treatment in patients with cancer. The first reported a patient with psoriasis and non-small cell lung cancer treated with guselkumab [6]. The second described a patient with a recent history of cerebral malignant melanoma metastasis who received sequential treatment with secukinumab and ustekinumab [7].

To our knowledge this is the first case reported of a psoriasis patient with a laryngeal cancer treated successfully with IXE. More investigation is needed to clarify the safety of anti-IL17 treatments in patients with active neoplasms. However, the available literature points to the possibility of it being a safe option. It is most likely that the neoplasm improved because of the chemotherapy and radiotherapy treatment. However, one may consider the possibility of positive effect of the anti-IL17 agent on the laryngeal cancer.

Potential conflicts of interest

The authors declare no conflicts of interest.

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