EA DV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 1922

Oral administration of ruxolitinib in psoriasis vulgaris: A case report of plaque psoriasis accompanied by myelofibrosis secondary to polisitemia vera successfully treated with oral ruxolitinib

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Introduction & Objectives:

Psoriasis is a chronic inflammatory skin disease, chracaterized by keratinocyte hyperproliferation and immune cell infiltration. Various therapies have been discovered for psoriasis including topical treatments, phototherapy, convansional systemic agents and biologics.

Materials & Methods:

JAK/STAT pathway inhibitors targeting TNF-α, IL-23 and IL-17 can be effective in psoriasis. Ruxolitinib, FDA-approved first-generation Janus kinase inhibitor for polycythemia vera, myelofibrosis, and acute graft-versus-host disease. Ruxolitinib cream has been investigated in various dermatologic diseases including atopic dermatitis, vitiligo, psoriasis, and alopecia areata. Ruxolitinib 1% and 1.5% cream have been found effective in psoriasis lesions with few mild adverse effects. However, there is no data on the efficacy of oral ruxolitinib in patients with psoriasis vulgaris. Here in, we report a patient diagnosed with myelofibrosis coexisting with psoriasis vulgaris, successfully treated with oral ruxolitinib.

Results:

A 64-year-old male patient with diagnosis of psoriasis vulgaris for 14 years referred to our Dermatology outpatient clinic. He was treated with narrow band ultraviolet-B for 6 months, metotrexat (subcutaneous, 15 mg weekly) for one year and ustekinumab for two years. On dermatological examination, there were well-bordered, erythematous and scaly plaques on body, extremities and scalp (Figure 1). Nail and joint involvement were detected. PASI score was 15. Genetic tests showed positive BCR-ABL test. Ustekinumab was discontinued due to risk of hematological malignancy. He was diagnosed with myelofibrosis secondary to esential trombocytotosis by the Hematology Department. Oral Ruxolitinib (Jakavi®) was started for myelofibrosis by Hematology Department. We followed up patient with only topical treatments (Calcipotriol oinment, mometazone furoat cream and moisturizers). After oral administration of Ruxolitinib, PASI score was 5.4 at month 1, 1.2 at month 2 and 0 at month 3. (Figure 1-2-3). No significant side effects were observed except for a moderate decrease in platelets (88.000) that improved by reducing the oral ruxolitinib dose.

Oral janus kinase inhibitors (JAKi), ruxolitinib and fedratinib, are main treatment options in the management of myeofibrosis,however they may have some potancial side effects and lead decrease in leukocyte, hemoglobin, and platelet concentrations. Indications for the use of JAKi in dermatology are increasing day by day. Topical therapy with JAKi (INCB018424) can be an effective alternative therapeutic option in psoriasis. However, data on the use of JAKi in psoriasis are limited. On the other hand, topical ruxolitinib (Opzelura®) 1.5% is approved by the US Food and Drug Administration (FDA) based on clinical trials in patients 12 years of age or older for the treatment of non-segmental vitiligo. It has been reported topical ruxolitinib have minimally side effects in vitiligo.

Conclusion:

To the best of our knowledge, our case is the first case report in which ruxolitinib was used orally in psoriasis. It is clear that oral ruxolitinib is effective in psoriasis, but it is debatable how necessary its oral use is in patients with psoriasis due to the possible side effects of this drug. More studies are needed on the use of topical and systemic JAKi in psoriasis.