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Case Report

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COVID-19 IN PATIENTS WITH PLAQUE PSORIASIS WHO ARE ON BIOLOGIC THERAPY WITH SECUKINUMAB

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ABSTRACT

Psoriasis is a chronically recurrent inflammatory skin disease that affects about 2-3% of the world's population. Based on the clinical picture, we distinguish between chronic plaque psoriasis, droplet psoriasis, nail psoriasis, inverse psoriasis, localized and generalized pustular psoriasis and erythrodermic psoriasis. In more than 20% of patients with plaque psoriasis, a clinical picture of moderate to severe disease develops. Based on the association of HLA antigen with the age of onset of psoriasis, we distinguish two forms of the disease, type I psoriasis and type II psoriasis. Type I disease occurs before age 40, is inherited, is more severe, and is associated with a significantly higher frequency of HLA Cw6 antigen. Type II psoriasis begins between the ages of 50 and 60, occurs sporadically, shows no association with HLA genes, and is milder in clinical course.[1] The paper presents a case report of a patient who was exposed to coronavirus disease (COVID-19) during treatment with plaque psoriasis with the biological drug secukinumab.

KEYWORDS: Plaque Psoriasis, Coronavirus disease (COVID-19), biological drug, secukinumab.

INTRODUCTION

Psoriasis is a chronic recurrent inflammatory skin disease that is estimated to affect about 2% of the world's population. Psoriasis, as a multisystem inflammatory disease, affects not only the skin and joints, but also many other organs with the development of comorbidities (hypertension, diabetes, cardiovascular diseases). This multisystem presentation of the disease affects the mental, physical and work ability of patients, which significantly impairs the quality of life. Numerous clinical studies have shown that timely and appropriate systemic therapy (conventional and biological drugs) can reduce the mortality of patients from these comorbidities and significantly contribute to improving the quality of life and work ability. Although there is no official registry of psoriasis patients, it is estimated that about 30% of patients must be treated with systemic therapy. According to experts, biological therapy would be primarily intended for those with the most severe forms of psoriasis, who are not helped by another method of treatment.[1,2] Secukinumab is approved for the treatment of moderate to moderate psoriasis in adults and severe chronic plaque psoriasis who do not respond satisfactorily or who are not adequate candidates for topical therapy and phototherapy.[3]

It is possible to start the application of the biological medicine only in clinical hospital centers along hospital committee approval for medicines. Before introducing the drug into therapy PASI and / or BSA should be calculated the value of that DLQI. Impact assessment therapies and activity of the disease should be evaluated in weeks 4, 12 and 28, by calculating the values of PASI, BSA and DLQI. Continuation of treatment it is possible only with the positive response to treatment initiated, if any after 12 weeks achieved at least 50% improvement in PASI values as well an improvement in DLQI value greater than 5 points, and after 28 weeks achieved at least 75% improvement in PASI values or 50% improvement in PASI values with decline DLQI below 5. If after 12 weeks achieve a satisfactory treatment goal, treatment can be continued in general or special hospital. Before the introduction of biological therapy necessary is off possible contraindications (malignant diseases in the anamnesis, hypersensitivity to earlier applied biological drug, pregnancy, congestive heart disease NYHA III / IV, acute infections, active TB), determine the risk for latent TB infection, sexually transmitted diseases, hepatitis B and C, HIV / AIDS, ask what medications the patient is taking, whether during of life received a transfusion and is suffering from some types of

addiction. It needs to be made general physical status. Patients with heart disease should be referred for cardiac examination. A neurological examination needs to be done in patients with demyelinating disease in family history. Before introduction biological drug is necessary to do the following results: PPD, quantiferon test (GAME), KKS, creatinine, urea, electrolytes, bilirubin, AST, ALT, GGT, urine, HbsAg, anti-HBc, anti-HCV, HIV Ag / At combination test, ANA, pregnancy test and X-ray of the heart and lungs In case of a positive PPD and / or quantiferon test, the patient should be referred to a pulmonologist, to exclude active TB, which is absolute contraindication for use biological therapies. Latent TB is needed treat according to the Treatment Procedure TB. A biological drug may be included after one month of chemoprophylaxis with latent TB isoniazid. Epidermal malignant tumors and carcinoma in situ cervix is not a contraindication for application of biological therapy. Infection hepatitis B and C11.12 viruses and HIV13 are according to today's views relative contraindication to the use of biological drug, but treatment should be carried out in collaborate with an infectologist and control the number viral particles in the blood. Recommended hepatitis B vaccination before introduction of biological therapy and vaccination against influenza before the expected epidemic.[4,5]

CASE PRESENTATION

A 36-year-old patient, machine worker, was hospitalized at the University Clinical Center Dermatovenerology Clinic.

From the anamnesis

The disease began In the past 20 years, changes in the face, the edge of the hair along the forehead, in the form of redness with an itchy feeling, are associated with a stressful situation. Over the past 7 years the changes have spread, and to the skin of the trunk and extremities. Nnaosio various court pomades without improvementIt now states worsening, despite long-term corticosteroid therapy.

The lab is available for inspection on July 6, 2020.
CRP 6.1, Le 5.3, Er 4.66, HgB 141, Hct 0.41, Tr 412
Seological diagnostics 15.06.2020.
QuantiFERON TB Gold plus: NEGATIVE
HBsAg INACTIVE
anti HBc INACTIVE
anti HCV NON-REACTIVE
HIV Ag / At INACTIVE

Since the patients underwent all conventional types of therapy - which did not lead to the expected therapeutic response, they are now preparing to introduce the biological drug secukinumab into the therapy, at the expense of the RS Health Insurance Fund.

Dermatology Status: on the skin of the trunk and extremities, as well as in the scalp, disseminated erythemosquamous plaques “Fig 1, Fig 2, Fig 3”. Toenail plates of toes and feet altered keratotic.

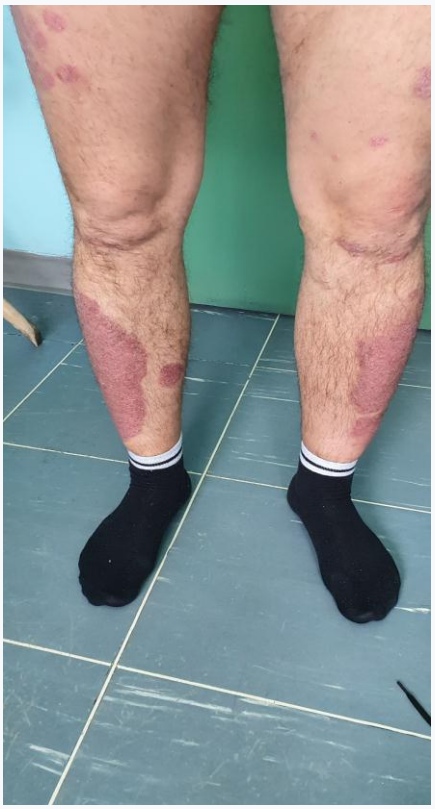

Fig. 1:

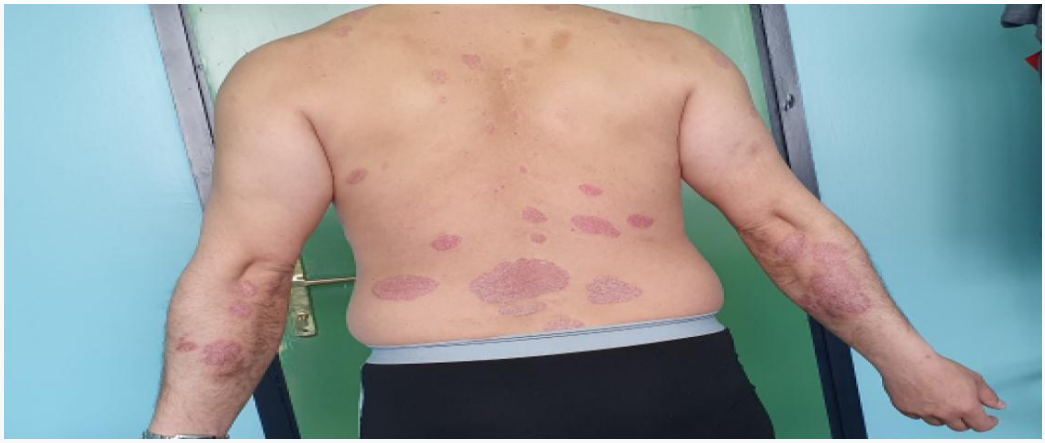

Fig. 2:

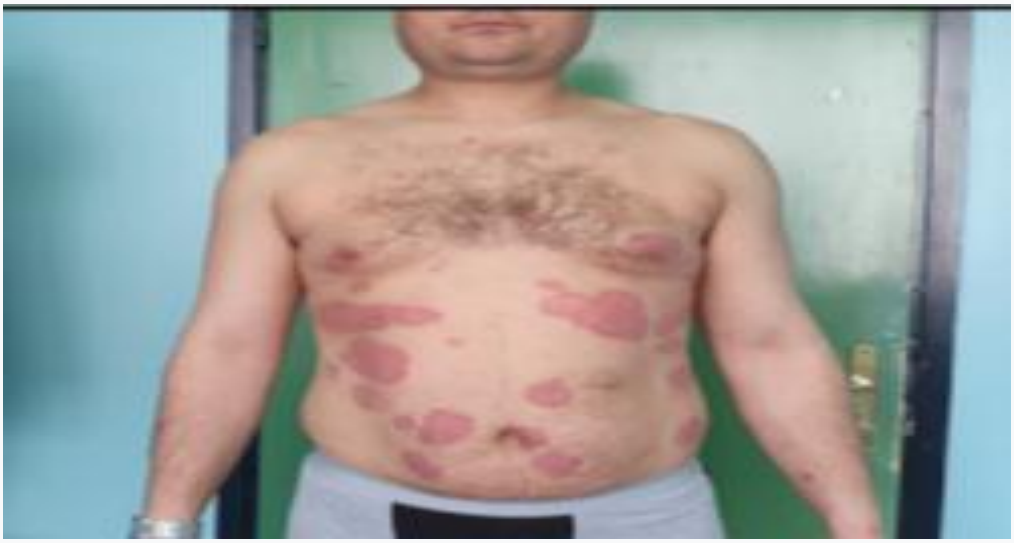

Fig. 3:

06.07.2020. Applied therapy: Cosentyx amp (secukinumab) a 150mg, 2 amp s.c. in one day, Nirypan amp a 40 mg i.m.
Further therapy: Local:
In the morning Mirobact ointment
In the evening Dermovate ointment on the edges
Control:In 7 days with a hospital referral and CRP and KKS findings
Planned admission of the patient for the application of the 1st dose of biological therapy (secukinumab).

Applied therapy well tolerated, without side effects. It is released in good general condition.
October 2020. He is now being admitted for the application of the 7th cycle of biological therapy. Changes in regression, no itching sensation. Use recommended local care therapy, urea preparations.

05.10.2020 Lab finds: CRP 3.5, KKS in gr ref value

Dermatological finding
On the skin of the trunk and extremities now, disseminated post-inflammatory residual changes. Laterally to the right of the trunk, 3 erythemosquamous areas up to 1 cm in diameter, located on the edge of the existing residual change.

Toenail plates of the fingers and toes changed almost complete regression of changes, except for the nail plate of the right thumb which is still changed - keratotic

Applied therapy
Cosentyx amp (secukinumab) a 150mg, 2 amp s.c. in one day 27.10.2020. the patient measured fever, limb pain, numbness, shortness of breath and sweating, the next day tested for corona disease (COVID-19) by PCR test, the result was positive in therapy used azithromycin a 500mg 1x1 for 6 days, Vitamin C a 1000mg, paracetamolum tablets a 500 mg 15 days after a positive test for corona virus and therapy, PCR retesting was performed and a negative test for coronavirus disease (COVID-19) was determined. 06.11.2020. X-ray finding there are no infiltrations in the pulmonary parenchyma, hilus differentiated, both hemidiaphragms neatly reduced, f.c. sinuses free, heart shadow adequate 15.12.2020. the 7th dose of the biological drug secukinumab is given one month after a negative PCR test for corona infection. Cosentyx amp (secukinumab) a 150mg, 2 amp s.c. in one day Dermatological finding:On

the skin of the trunk and extremities now, disseminated post-inflammatory residual changes "Fig 4" Applied therapy well tolerated, without side effects. It is released in good general condition.

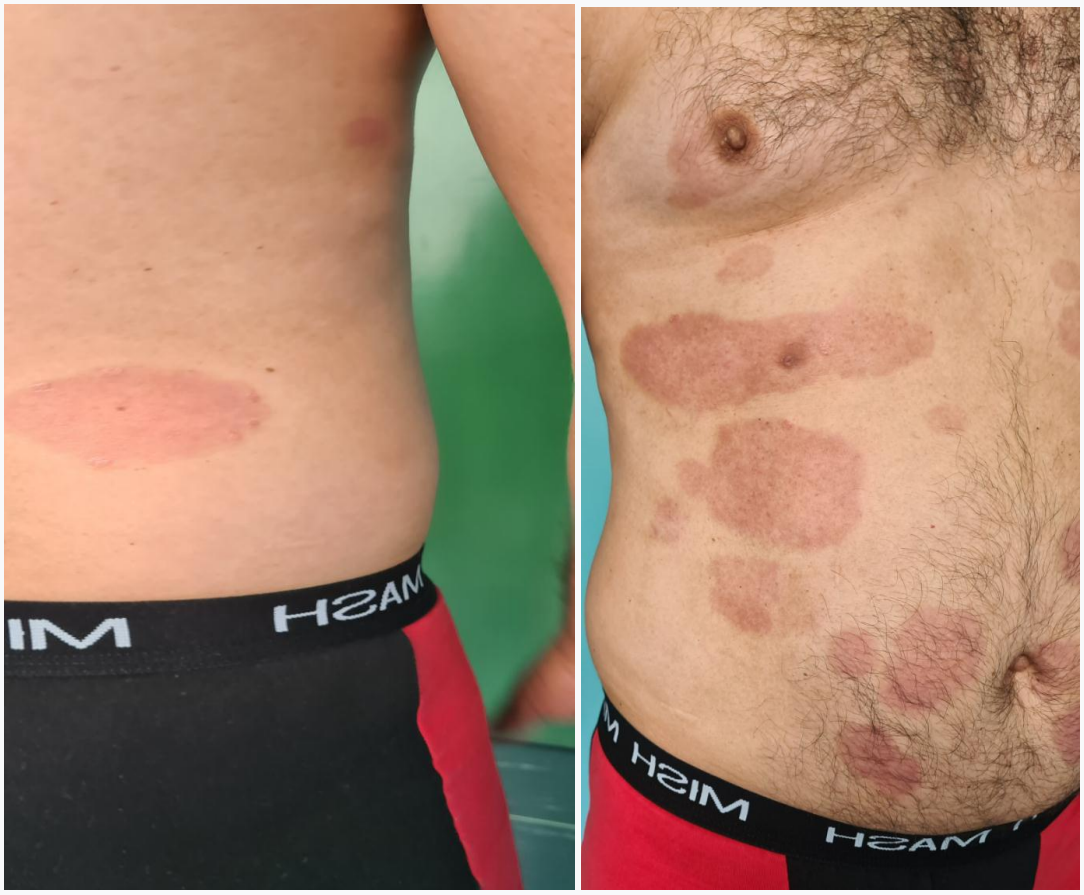

Fig 4.

DISCUSION

Secukinumab is indicated for the treatment of plaque psoriasis, psoriatic arthritis and ankylosing spondylitis. In January 2015, it was first registered by the FDA for the treatment of moderate to severe plaque psoriasis (www.fda.gov).

Two randomized studies in phase 3 clinical trials evaluated the efficacy and safety of secukinumab - at doses of 300 or 150 mg in patients with moderate to severe plaque psoriasis with induction therapy (efficacy assessment at 12 weeks) and maintenance therapy (assessment after 52. weeks). The ERASURE study (Efficacy of Response and Safety of Two Fixed Secukinumab Regimens in Psoriasis) compared secukinumab with placebo, and the FIXTURE study (Full Year Investigate Examination of Secukinumab vs. Etanercept Using Two Dosing Regimens to Determine Efficacy in Psoriasis) compared sekin etanercept, the first FDA-approved TNF inhibitor for the treatment of moderate to severe plaque psoriasis.

The endpoints of the study were PASI 75 and the secondary endpoints were PASI 90. In the ERASURE study, after 12 weeks, as many as 81.6% of patients on 300 mg secukinumab achieved PASI 75, and at a dose of 150 mg secukinumab, 71.6% of patients achieved PASI 75. Only 4.5% of placebo patients achieved PASI 75. PASI 90 was achieved by 59% of patients after 150 weeks of secukinumab 300 mg, 39.1% by 150 mg, and only 1.2% by placebo. . By Week 52, PASI 75 was maintained by 80.5% of patients on 300 mg secukinumab therapy, 72.4% of patients on 150 mg response, and placebo patients did not maintain PASI 75. Secukinumab patients had a major improvement in the DLQI scale. an average of 11.5 points (300 mg).

These therapies have been associated with increased risk of infection, including upper respiratory tract viral infection. Psoriasis is frequently associated with cardio-metabolic comorbidities, such as obesity and diabetes, that are risk factors for poor prognosis in the case of coronavirus disease (COVID-19) pneumonia. A narrative review of the literature based on an electronic search of the PubMed® database was undertaken with the objective of investigating whether there is an increased risk of COVID-19 infection in psoriasis patients on systemic treatment. There is no evidence that patients with moderate-to-severe psoriasis receiving systemic treatments, including biologics, have higher risk of SARS-CoV-2 infection and/or increased hospitalization

and death related to COVID-19 compared to the general population.

In our paper, we present the case of a 36-year-old patient with plaque psoriasis, as well as his complete recovery from COVID-19 with an easier clinical finding and favorable outcomes, who was treated with biological agents (secukinumab).

Mugheddu et al. presented a similar case in their work, Safety of secukinumab treatment in COVID-19 affected psoriatic patients His knowledge supports the role of several cytokines release in COVID-19, including IL17, especially in patients with pneumonia and an anti-IL17 treatment may provide an additional benefit rather than be dangerous. Theirs experience confirms that secukinumab can be safely continued in patients exposed to COVID-19, with a favorable course and rapid recovery even in the more critical patient.[9]

CONCLUSION

Psoriasis treatment with biologics, although dismission should be considered when COVID-19 symptoms occur. More studies have shown that Secukinumab has the lowest immunogenic potential of all monoclonal antibodies tested. According to the observations from this paper and numerous other papers, the emphasis is on the safety of biological therapy with interleukin 17-A antagonists (secukinumab) in the treatment of patients with plaque psoriasis and COVID 19, as well as much easier clinical manifestation of this infection in patients with applies the mentioned type of therapy.

Currently, however, there is no evidence to support the idea that patients receiving systemic biologic therapy who was exposed to COVID-19should stop their treatment.

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