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Two Patients with Psoriasis and Hepatitis B Treated with Secukinumab During COVID-19 Pandemic

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ABSTRACT

Secukinumab may be a safety option for patients with psoriasis and hepatitis B virus (HBV) infection because of its treatment mechanism. Two patients with chronic HBV who had used tenofovir disoproxil 245 mg per day were suffering from psoriasis. For one, on July 31, 2019 treatment with standard dose secukinumab was started and for another on January 20, 2020. Although on March 11, 2020 Coronavirus disease-2019 (COVID-19) pandemic started in Turkey, we didn't stop secukinumab treatments of our patients. Based on the start of treatment of secukinumab of our 50-year-old patient, after eight weeks Psoriasis Area Severity Index (PASI) 90 response and after 15 weeks PASI 100 response was reached and PASI 90 response was obtained in our 35-year-old patient after five weeks and PASI 100 response was reached after 18 weeks after starting secukinumab. Secukinumab treatments of our patients are going on. Further long-term studies and case reports are needed to validate the safety and efficacy of secukinumab in patients with HBV. Our cases were deemed worthy of presentation because they were the first reported cases with psoriasis and HBV infection used secukinumab and tenofovir disoproxil in COVID-19 pandemic.

Keywords: Psoriasis, Secukinumab, Hepatitis B virus, Coronavirus disease-2019

Introduction

Using biologic therapies for immune diseases, such as psoriasis, is controversial when hepatitis B virus (HBV) infection is active in the patient because this status has been associated with reports of HBV reactivation [1]. Food and Drug Administration is suggesting that patients with HBV should not be treated with biologics targeting tumor necrosis factor (TNF) [2]. Secukinumab is an anti-interleukin (IL) 17A monoclonal antibody produced by T-helper 17 (Th17) cells [1]. IL-17 has been shown to mediate host defence mechanisms in response to various infective agents including viruses and plays an important role in HBV activity [1,3]. Increased serum levels of IL-17 and frequency levels of Th17 can be used as indicators for HBV infection and progression according to various studies [1].

Safety data for secukinumab in patients with psoriasis and viral hepatitis are lacking in the literature. Here we present two male patients with chronic plaque psoriasis and chronic viral HBV infection who achieved Psoriasis Area Severity Index (PASI) 100 response with the treatment of secukinumab.

Case Report

A 50 year-old male with chronic plaque psoriasis and chronic HBV applied to dermatology outpatient clinic of Izmir Tepecik Training and Research Hospital. The patient suffering from psoriasis for 30 years didn't have any joint involvement. His PASI was 18 (Figure 1). He had used tenofovir disoproxil 245 mg per day. On July 31, 2019 his hepatitis B surface antigen (HBsAg) was 4853.47 S/CO (positive), immunoglobulin M (IgM) antibody to hepatitis B core antigen (anti-HBc IgM) and anti-hepatitis Be (anti-HBe) were negative, immunoglobulin G (IgG) antibody to anti-HBc IgG was positive, hepatitis B surface antibody (anti-HBs) was 0.48 mIU/mL (negative),

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anti-hepatitis C virus (anti-HCV), anti human immunodeficiency virus (anti-HIV) and quantiFERON-TB Gold (QFT) test were negative. On the same day, treatment with standard dose secukinumab (300 mg sc at week 0, 2, 4, 6, 8 and then 300 mg sc every one month) was started. On August 8, 2019 HBV-DNA was 370000.0 IU/mL (normal level <10 IU/mL) and HBsAg increased to 5631 S/CO. On March 9, 2020 his HBsAg was 5631 S/CO (positive) and anti-HBs was negative. Although on March 11, 2020 Coronavirus disease-2019 (COVID-19) pandemic started in Turkey, we didn't stop secukinumab treatment of our patient. We telled to him all necessary warnings and suggestions during pandemic period. Based on the start of treatment of secukinumab, after eight weeks PASI 90 response and after 15 weeks PASI 100 response was reached (Figure 2). Our patient was at the 34th week of treatment and PASI 100 response is going on (on May 26, 2020). He is still in remission. Our other 35-year-old male patient suffering from plaque psoriasis for 13 years applied to our dermatology outpatient clinic on September 12, 2019. PASI was 14.6 (Figure 3). He had used tenofovir disoproxil 245 mg per day because he was chronic HBV. On September 12, 2019 according to his laboratory findings HBsAg (2150.28 S/CO), anti-HBc IgG (10.38 S/CO) and anti-HBe (0.01 S/CO) were positive. Anti-HBs and anti-HBc IgM were negative. HBV-DNA was 117000.0 IU/mL and after three months HBV-DNA was measured as 370000.0 IU/mL, on January 20, 2020 HBV-DNA was 4.4E IU/mL. Anti-HCV, anti-HIV and QFT tests were negative.On the same day treatment with standard dose secukinumab (300 mg sc at week 0, 2, 4, 6, 8 and then 300 mg sc every one month) was started. After five weeks, PASI 90 response and after 18 weeks PASI 100 response were obtained (Figure 4). He is still in remisson. No adverse effects developed. Both verbal and written informed consents have been provided from the cases.

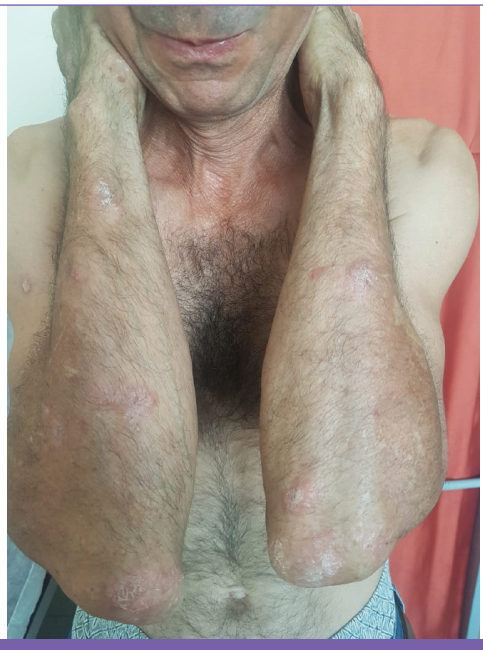

Figure 1. Elbows

Discussion

Biologic agents can change the balance between the degree of virus replication and host immune control, which may thereby cause virus reactivation [3]. HBV, a DNA virus, persists latently in hepatocellular nuclei and proliferates when the immunity of the host is suppressed by immunosuppressive drugs or biological agents. The reactivation rate of HBV by anti-TNF therapy varies from 33 to 62%, by anti-IL-12/23 antibodies reaches 29% [4].

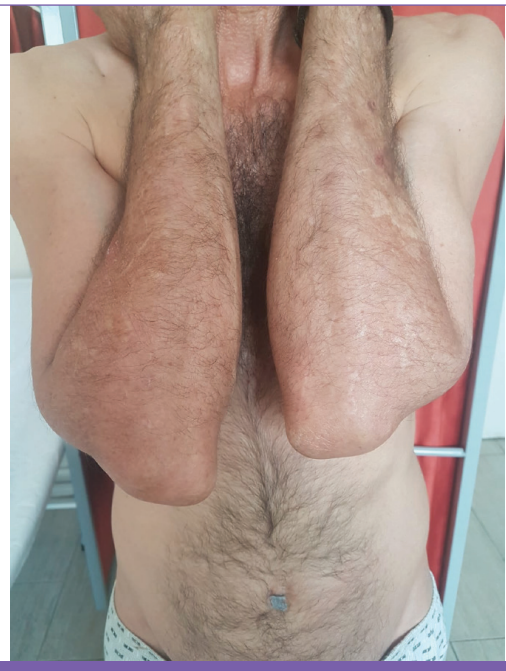

Figure 2. Elbows

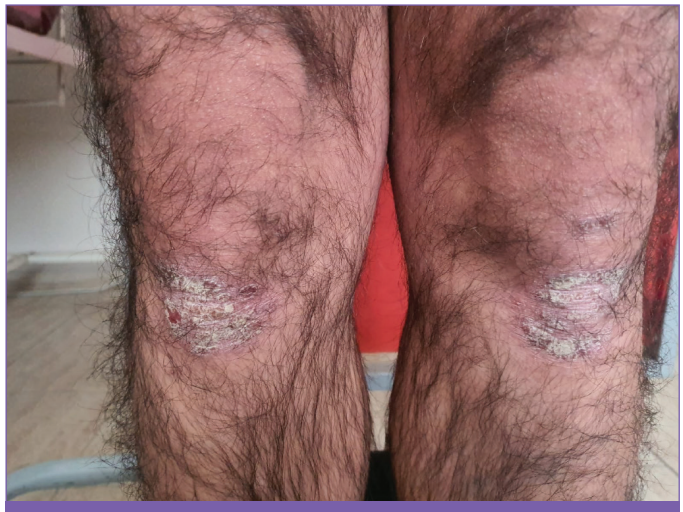

Figure 3. Knees

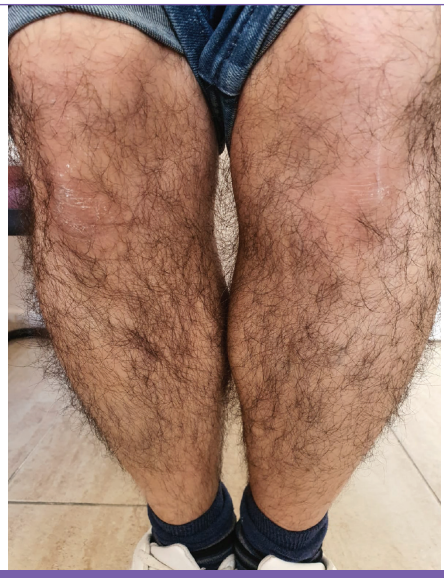

Figure 4. Knees

Secukinumab, may be a much-needed treatment for moderate-to-severe psoriasis in HBV patients experiencing suboptimal disease control with other therapies [3,4,5,6]. The data available for patients with psoriasis with concomitant HBV infection treated with systemic therapies are limited to case studies and small groups [7]. Feaster et al. [1] presented a 48-year-old case with psoriasis, psoriatic arthritis who is a carrier of congenital HBV. This case was treated successfully with secucinumab whitout reactivation of HBV. Yanagihara et al. [4] presented another case study of a 66-year-old man with HBV, he was successfully treated with a combination therapy of secukinumab and entecavir, with no reactivation of HBV over nine months of follow-up. In Chiu et al.'s [3] study, twenty-five of the 49 patients with HBV infection had chronic HBV infection, 13 had resolved HBV infection and the other 11 were infected with occult HBV at the time of recruitment. Four of 49 patients used concomitant immunosuppressants or immunomodulators in addition to secukinumab. Three patients with HBV infection (HBsAg positive and HBsAb negative) received antiviral prophylaxis, in the form of 600 mg telbivudine or 0.5 mg entecavir daily. HBV reactivation wasn't occured in these three patients. However, six patients of 22 with HBV (HBsAg positive and HBsAb negative) who did not receive antiviral prophylaxis developed HBV reactivation after 3.4±2.8 months. None of these patients adjusted or discontinued the secukinumab therapy [3]. Furthermore, in a multicenter study of 324 patients with moderate to severe PsO treated with secukinumab including six patients with HBV, secukinumab was effective and safe, with no reports of HBV reactivation [8].

Further long-term studies and case reports are needed to validate the safety and efficacy of secukinumab in patients with HBV. Our cases were deemed worthy of presentation because they were the first reported cases with psoriasis and HBV infection used secukinumab and tenofovir disoproxil in COVID-19 pandemic. Our patients continue secukinumab treatments without any side effects and remain self-isolated at home.

Ethics

Informed Consent: Both verbal and written informed consents have been provided from the cases.

Peer-review: Internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.G., D.D.B., Concept: M.G., D.D.B., Design: M.G., D.D.B., Data Collection or Processing: M.G., D.D.B., Analysis or Interpretation: M.G., D.D.B., Literature Search: M.G., D.D.B., Writing: M.G., D.D.B.

Conflict of Interest: No conflict of interest was declared by the authors.

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References

1. Feaster B, Cline A, Feldman SR. Secukinumab for psoriasis in a patient with hepatitis B. Dermatol Online J 2018;24:13030.
2. U.S. Food and Drug Administration (2011). FDA Drug Safety Communication: Drug labels for the Tumor Necrosis Factor-alpha (TNFα) blockers now include warnings about infection with Legionella and Listeria bacteria. Available from: https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-drug-labels-tumor-necrosis-factor-alpha-tnfa-blockers-now-include
3. Chiu HY, Hui RC, Huang YH, Huang RY, Chen KL, Tsai YC, Lai PJ, Wang TS, Tsai TF. Safety Profile of Secukinumab in Treatment of Patients with Psoriasis and Concurrent Hepatitis B or C: A Multicentric Prospective Cohort Study. Acta Derm Venereol 2018;98:829-834.
4. Yanagihara S, Sugita K, Yoshida Y, Tsuruta D, Yamamoto O. Psoriasis vulgaris in a hepatitis B virus carrier successfully treated with secukinumab and entecavir combination therapy. Eur J Dermatol 2017;27:185-186.
5. Bevans SL, Mayo TT, Elewski BE. Safety of secukinumab in hepatitis B virus. J Eur Acad Dermatol Venereol 2018;32:120-121.
6. Blauvelt A. Safety of secukinumab in the treatment of psoriasis. Expert Opin Drug Saf 2016;15:1413-1420.
7. Jashin J Wu, Joseph F Merola, Steven R Feldman, Alan Menter, Mark Lebwohl. Treatment of psoriasis with secukinumab in challenging patient scenarios: a review of the available evidence. Dermatol Ther (Heidelb). 2020;10:351-364.
8. Megna M, Di Costanzo L, Argenziano G, Balato A, Colasanti P, Cusano F, Galluccio AG, Gambardella A, Lembo S, Mozzillo R, Scotto Di Luzio G, Fabbrocini G, Balato N. Effectiveness and safety of secukinumab in Italian patients with psoriasis: an 84 week, multicenter, retrospective real-world study. Expert Opin Biol Ther 2019;19:855-861.