CLINICAL OBSERVATIONS

The use of selective Janus kinase inhibitor upadacitinib in a patient with psoriatic arthritis (clinical observation)

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We describe a patient with psoriatic arthritis (PSA) and palmoplantar psoriasis, resistant to standard therapy, who observed a significant decrease in disease activity on the background of upadacitinib at a dose of 15 mg/day. Remission was achieved by the 3rd month of treatment. No adverse phenomena were observed within 6 months of treatment.

Keywords: *psoriatic arthritis; Janus kinase inhibitors; upadacitinib; biologic/targeted therapy.*
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According to modern concepts, psoriatic arthritis (PsA) is a peripheral phenotype of spondyloarthritis (SpA), occurs in 30% of patients with psoriasis (PsO) and is considered as an inflammatory disease of the musculoskeletal system in PsO [1–3]. Non-steroidal anti-inflammatory drugs (NSAIDs), traditional synthetic disease-modifying anti-inflammatory drugs (sDMARDs), targeted sDMARDs and genetically engineered biological drugs (bDMARDs) are used for PsA treatment [1]. The new version of the Federal Clinical Guidelines for the Treatment of Patients with PsA, resisting to sDMARDs admit the use of Janus kinase inhibitors, including tofacitinib (TOFA) and upadacitinib (UPA) [1]. UPA has proven the high efficacy and safety when prescribed in patients with PsA in large randomized placebo-controlled and long-term observational studies [3–9], while the publications evaluating this drug in real clinical practice are of particular interest and is determined as the purpose of this work.

We share our own experience of using the Janus kinase inhibitor UPA in a patient with PsA and palmar-plantar PsO resistant to standard therapy.

Clinical observation

Patient M.*, 43 years old, a car mechanician, in September 2023 complained to the pain and swelling in the right knee and right ankle joints, lameness when walking, rashes with the formation of "ulcers" and peeling in the palms and soles. The rash on the skin of the palms firstly appeared in 2017, examined by a dermatologist with a diagnosis of "dermatitis, unspecified". The therapy of topical glucocorticoids (GC) was prescribed with a good effect. In 2020, after stress, an increase of rashes on the palms was noted, similar elements appeared on the skin of the soles. Due to quarantine measures caused by a new coronavirus infection, the patient was unable to get a consultation with specialists and independently administered betamethasone sc once every 2-3 months with a positive effect. In 2022, severe swelling of the right knee joint developed. He consulted an orthopedic traumatologist and, with a diagnosis of gonarthrosis, repeatedly received intra-articular injections therapy with hyaluronic acid and chondroitin sulfate preparations without effect. After another intra-articular injection, purulent arthritis developed, and the patient was hospitalized. One month later after discharge from the hospital, an increase in rashes on the skin of the palms and soles was noted and betamethasone was administered once every 1-2 months. When trying to withdraw GC, the skin rashes resumed. Since discharge from the hospital, signs of inflammation of the knee joint persisted, arthritis of the right ankle joint appeared. While examination, the general condition was satisfactory, body temperature is 36.5 ° C. Normosthenic build, height - 178 cm, body weight - 95 kg. Body mass index is 30. Peripheral lymph nodes are not enlarged. Heart sounds are clear, rhythmic, no murmurs. Blood pressure is 125/70 mm Hg, pulse is 78 beats per minute. Vesicular breathing, no wheezing. The number of respiratory movements is 16 per minute. The abdomen is soft and painless on palpation. There are psoriatic rashes on the skin of the palms and soles (Fig. 1, a, b).*

X-ray of the pelvis, hands and feet, magnetic resonance imaging (MRI) of the sacroiliac joints did not reveal pathological changes. MRI of the spine revealed degenerative-dystrophic changes (osteochondrosis, spondyloarthrosis) of the thoracic, lumbar and sacral regions, spondylosis of the thoracic region. X-ray of the knee joints revealed signs of gonarthrosis stage III on the right, stage I on the left according to the Kellgren-Lawrence classification.

The patient was examined by a dermatologist, the diagnosis was: PsA, asymmetric oligoarthritis (right knee and ankle joints) of moderate activity (DAS28 = 3.7), HLA-B27 negative. Secondary gonarthrosis stage III on the right and stage I on the left. Palmar and plantar psoriasis, exacerbation, progressive stage. Methotrexate (MT) was prescribed subcutaneously with an increase in the dose once a month to 15 mg / week (use of a dose > 15 mg / week was accompanied by severe dyspepsia) and a course of oral GCs to relieve the "withdrawal syndrome" caused by the uncontrolled use of betamethasone. Against the background of this therapy, an attempt to discontinue GCs was noted to increase clinical and laboratory activity indicators.

In January 2023, due to the ineffectiveness of standard therapy, the formation of hormone dependence and taking into account the patient's wishes, after a medical commission, treatment with UPA was started at a dose of 15 mg / day. After 4 weeks of taking UPA, relief of arthritis of the ankle joint, a significant re-

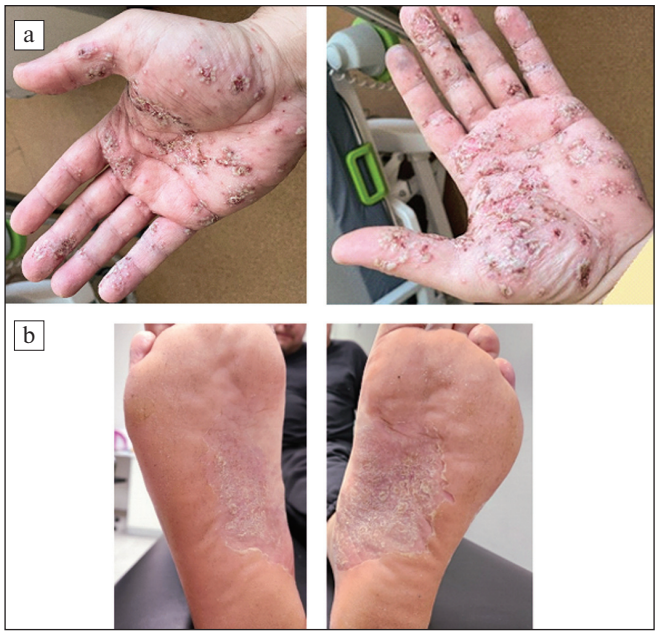

Fig. 1. *Palmar and plantar skin changes before UPA treatment: a – palmar psoriasis. Typical psoriatic plaques with characteristic peeling; b – plantar psoriasis*

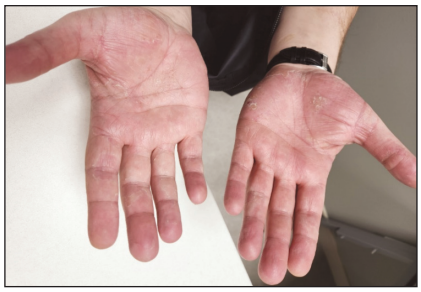

Fig. 2. *Palmar skin after 4 weeks of UPA therapy. Single foci with peeling*

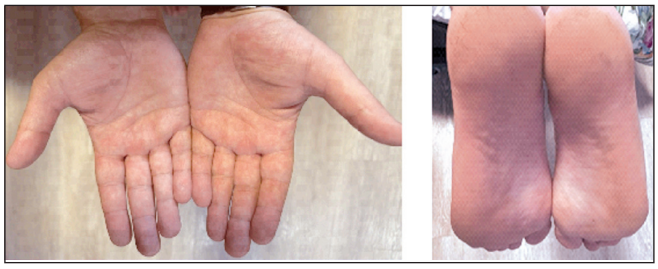

Fig. 3. *Palmar and plantar skin after 6 months of UPA therapy. Clear skin*

duction in the symptoms of arthritis of the right knee joint, normalization of acute phase indicators and low disease activity as were observed.

After 3 months of therapy, remission of PsO and PsA was reported, which demonstrated after 6 months of UPA therapy (see table, Fig. 2, 3). Minimal pain (2 cm on the visual analogue scale, VAS) was of mechanical in nature and caused by the secondary gonarthrosis. No adverse events were reported during 6 months of UPA treatment.

Discussion. PsA is an inflammatory disease that belongs to the SpA group and occurs in patients with cutaneous PsO [10]. In addition to arthritis and skin lesions, PsA is characterized by the development of dactylitis, enthesitis, spondylitis and sacroiliitis [1]. PsA is detected in approximately in 30% of patients with PsO, and in more than 60% with psoriatic skin

The dynamics of activity indicators of PsA and psoriasis on the background of upadacitinib (UPA) therapy

Indicators	Before therapy	1 month after the therapy	6 months after the therapy
PGA according to VAS, cm	9	5	2
Joint pain according to NRS, cm	9	4	2
PASI	6	1,4	0
DAS28-CRP	3,7	2,7	1,5
ESR, mm per hour	35	12	10
CRP, mg/L	58,6	7	5

CRP – C-reactive protein; ESR - erythrocyte sedimentation rate; NRS – numerical rating scale; PGA – patient's general assessment; VAS – visual analogue scale.

lesions are observed several years before the onset of arthritis, in the rest % cases, arthritis precedes cutaneous PsO or develops simultaneously with it (especially in children and patients over 50 years old) [2, 3, 11, 12]. The most common manifestation of PsA is polyarthritis, which occurs in 59–68% of patients, oligoarthritis is recorded in 13–26% [2, 3, 11, 12]. PsO is a heterogeneous pathological process with a wide clinical spectrum of skin lesions. PsO of the palms and soles is a type of pustular PsO that affects exclusively the skin of the palms and feet [13]. Unfortunately, in our patient this form of PsO was not recognized in time by dermatologists, despite typical skin symptoms (Fig. 4). At the same time, early diagnosis of PsO and timely administration of adequate therapy can be crucial for containing the progression of both skin manifestations and arthritis. Based on clinical assessment, five main types of PsA are distinguished: arthritis of the distal interphalangeal joints of the hands and feet; symmetrical polyarthritis (rheumatoid-like form); mutilating arthritis (Fig. 5); asymmetrical mono-, oligoarthritis; psoriatic spondylitis [1]. However, in some patients the clinical picture is mixed, and over time the number of joints involved and clinical manifestations may change. Although certain groups of patients with PsO with an increased risk of developing PsA (severe skin lesions, nail lesions, use of retinoids) have been identified [2, 3, 11, 12], in the author's opinion, the appearance of changes in joints or periarticular tissues in any form of PsO should be considered as PsA until proven otherwise. To assist specialists, the PEST (Psoriasis Epidemiology Screening Tool) questionnaire has been created to identify PsA in patients with PsO [1]. Our patient had palmar-plantar PsO, which is not classified as "severe" or "common", but sharply worsens the quality of life, since the patient was practically deprived of the opportunity to work in his specialty and at the same time developed persistent oligoarthritis with damage to the knee and ankle joints, resistant to sDMARDs. It is especially note-

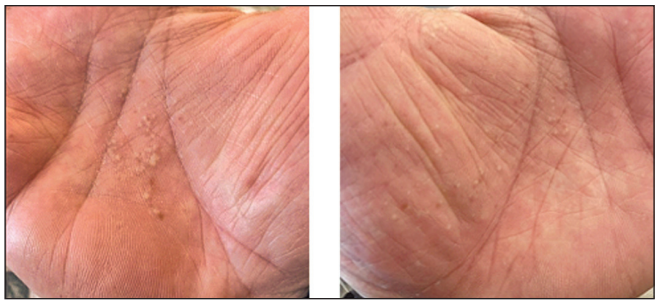

Fig. 4. *Primary elements – typical pustules in the debut of the palmoplantar psoriasis*

worthy that, despite obvious signs of joint inflammation and high acute phase markers, the patient was observed for a long time by traumatologists-orthopedists without consulting a rheumatologist and received intra-articular injections of hyaluronic acid preparations, the use of which is not indicated for arthritis, and another local administration led to the development of purulent arthritis. Traumatologists-orthopedists (surgeons) must remember that local injection therapy with such drugs should be used only when inflammatory rheumatic disease is excluded. NSAIDs, local injections of GC, sDMARDs, GIBPs, phosphodiesterase 4 inhibitors (Apremilast) are used to treat PsA. TOPA and UPA Janus kinase inhibitors are also prescribed in the absence of restrictions. For TOFA, these are age over 65 years, high risk of thromboembolic complications, risk factors for cardiovascular diseases, history of serious cardiovascular events, heart failure, and use of hormonal contraceptives [1]. No such restrictions are specified for UPA, while the drug has shown efficacy against arthritis, enthesitis, dactylitis, spondylitis, PsO both in combination with MT and in monotherapy [5, 6, 8].

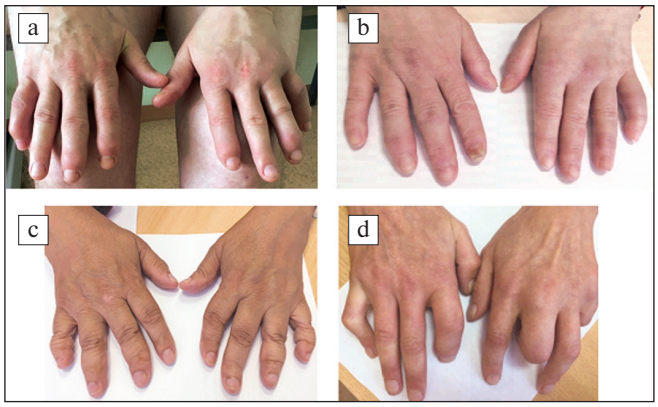

Fig. 5. *Variants of hand psoriasis: а – distal form in a 48-year-old man; б – polyarthritis with lesion on individual distal and proximal interphalangeal joints and dactylites of the I and V fingers of the left hand in a 40-year-old woman; в – a mutilating form with degeneration of the ligamentous apparatus, shortening of the fingers due to osteolysis in a 56-year-old woman; г – a mutilating form with development of contractures of the wrists in a 34-year-old HIV-infected man. Photos – from the author's archive*

In the presented clinical case, UPA has demonstrated a significant effect: in 4 weeks after the therapy start, a persistent decrease in disease activity was demonstrated, drug remission was reported in 3 months, GCs were discontinued, and after 6 months, positive dynamics of both PsO and PsA was reported. The UPA tolerance was good, no adverse events were registered during 6 months of treatment.

Conclusion. This clinical case demonstrates the high efficacy and safety of UPA in progressive PsA resistant to the standard therapy. UPA may be a promising drug for the treatment of PsA.

REFERENCES

1. Федеральные клинические рекомендации Псориаз артропатический. Псориатический артрит. 2024.
[Federal clinical guidelines Psoriatic Arthritis. 2024]. https://cr.minzdrav.gov.ru/.
2. Kimak A, Robak E, Makowska J, Wozniacka A. Psoriatic Arthritis: Development, Detection and Prevention: A Scoping Review. *J Clin Med.* 2023 Jun 5;12(11):3850. doi: 10.3390/jcm12113850.
3. Azuaga A, Ramirez J, Canete J. Psoriatic Arthritis: Pathogenesis and Targeted Therapies. *Int J Mol Sci.* 2023 Mar 3;24(5):4901. doi: 10.3390/ijms24054901.
4. Gossec L, Kerschbaumer A, Ferreira RJO, et al. EULAR recommendations for the management of psoriatic arthritis with pharmacological therapies: 2023 update. *Ann Rheum Dis.* 2024 May 15;83(6):706-719. doi: 10.1136/ard-2024-225531.
5. Nash P, Richette P, Gossec L, et al. Upadacitinib as monotherapy and in combination with non-biologic disease-modifying antirheumatic drugs for psoriatic arthritis. *Rheumatology (Oxford).* 2022 Aug 3;61(8):3257-3268. doi: 10.1093/rheumatology/keab905.
6. Mease P, Lertratanakul A, Anderson J, et al. Upadacitinib for psoriatic arthritis refractory to biologics: SELECT-PsA 2. *Ann Rheum Dis.* 2021 Mar;80(3):312-320. doi: 10.1136/annrheumdis-2020-218870. Epub 2020 Dec 3.
7. Sarabia S, Ranjith B, Koppikar S, Wijeratne D. Efficacy and safety of JAK inhibitors in the treatment of psoriasis and psoriatic arthritis: a systematic review and meta-analysis. *BMC Rheumatol.* 2022 Sep 27;6(1):71. doi: 10.1186/s41927-022-00287-7.
8. Burmester GR, Stigler J, Rubbert-Roth A, et al. Safety Profile of Upadacitinib up to 5 Years in Psoriatic Arthritis, Ankylosing Spondylitis, and Non-radiographic Axial Spondyloarthritis: An Integrated Analysis of Clinical Trials. *Rheumatol Ther.* 2024 Jun; 11(3):737-753. doi: 10.1007/s40744-024-00671-4. Epub 2024 Apr 29.
9. Keeling S, Maksymowych W. JAK inhibitors, psoriatic arthritis, and axial spondyloarthritis: a critical review of clinical trials. *Expert Rev Clin Immunol.* 2021 Jul;17(7): 701-715. doi: 10.1080/1744666X.2021.1925541. Epub 2021 May 13.
10. Drosos A, Venetsanopoulou A, Voulgari P. Axial Spondyloarthritis: Evolving concepts regarding the disease's diagnosis and treatment. *Eur J Intern Med.* 2023 Nov:117:21-27. doi: 10.1016/j.ejim.2023.06.026. Epub 2023 Jul 5.
11. Ritchlin C, Colbert R, Gladman D. Psoriatic Arthritis. *N Engl J Med.* 2017 May 25; 376(21):2097. doi: 10.1056/NEJMx170005.
12. Ocampo DV, Gladman D. Psoriatic arthritis. F1000Res. 2019 Sep 20:8:F1000 Faculty Rev-1665. doi: 10.12688/f1000research.19144.1. eCollection 2019.
13. Uppala R, Tsoi L, Harms P, et al. "Auto-inflammatory psoriasis"– genetics and biology of pustular psoriasis. *Cell Mol Immunol.* 2021 Feb;18(2):307-317. doi: 10.1038/s41423-020-0519-3. Epub 2020 Aug 19.

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Conflict of Interest Statement

The investigation has not been sponsored. There are no conflicts of interest. The author is solety responsible for submitting the final version of the manuscript for publication. The final version of the manuscript has been approved by the author.

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