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GENERALIZOVANA PUSTULOZNA PSORIJAZA SA SISTEMSKOM INFLAMACIJOM I PROLAZNOM HEPATIČNOM DISFUNKCIJOM – PRIKAZ SLUČAJA
GENERALIZED PUSTULAR PSORIASIS WITH SYSTEMIC INFLAMMATION AND TRANSIENT HEPATIC DYSFUNCTION – A CASE REPORT

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Sažetak

Uvod. *Generalizovana pustulozna psorijaza je redak, težak i potencijalno životnougrožavajući oblik psorijaze, često praćen izraženom sistemskom inflamacijom i razvojem eritrodermije. Poremećaji funkcije jetre tokom lečenja generalizovane pustulozne psorijaze predstavljaju značajan dijagnostički i terapijski izazov.* ***Prikaz slučaja.*** *Bolesnik star 69 godina hospitalizovan je zbog eritematoznih plakova sa sterilnim pustulama na trupu, ekstremitetima, šakama, stopalima i razvojem eritrodermije, sistemske inflamacije i prolaznom hepatičnom disfunkcijom. Tokom lečenja acitretinom i antibioticima zabeležen je značajan porast jetrenih enzima i holestaznih parametara, uz uredan radiološki nalaz jetre i negativne virusološke analize. Privremena obustava potencijalno hepatotoksičnih lekova i korekcija terapije doveli su do normalizacije laboratorijskih parametara i kliničkog poboljšanja.* ***Zaključak.*** *Ovaj prikaz naglašava značaj pažljivog laboratorijskog i kliničkog praćenja, kao i individualizovanog terapijskog pristupa kod bolesnika sa generalizovanom pustuloznom psorijazom u prisustvu sistemskih komplikacija.*
Ključne reči: *psorijaza; vezikulobulozne dermatoze; sindrom sistemskog inflamatornog odgovora; jetra; enzimi; eksfolijativni dermatitis; acitretin; oštećenje jetre izazvano lekovima i hemikalijama; citokini*

Abstract

Introduction. Generalized pustular psoriasis is a rare, severe, and potentially life-threatening form of psoriasis, frequently accompanied by marked systemic inflammation and erythroderma. Liver function abnormalities occurring during the treatment of generalized pustular psoriasis represent a significant diagnostic and therapeutic challenge. **Case Report.** A 69-year-old patient was hospitalized due to erythematous plaques with sterile pustules involving the trunk, extremities, hands, and feet, accompanied by erythroderma, systemic inflammation, and transient hepatic dysfunction. During treatment with acitretin and antibiotics, a significant elevation of liver enzymes and cholestatic parameters was observed, despite normal liver imaging and negative virological findings. Temporary discontinuation of potentially hepatotoxic agents and adjustment of therapy resulted in normalization of laboratory parameters and clinical improvement. **Conclusion.** This case underscores the importance of careful clinical and laboratory monitoring, as well as an individualized therapeutic approach in patients with generalized pustular psoriasis complicated by systemic manifestations.
Key words: Psoriasis; Skin Diseases, Vesiculobullous; Systemic Inflammatory Response Syndrome; Liver; Enzymes; Dermatitis, Exfoliative; Acitretin; Chemical and Drug Induced Liver Injury; Cytokines

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Uvod

Generalizovana pustulozna psorijaza (GPP), poznata i kao Von Zumbusch tip, je akutna forma pustulozne psorijaze. Predstavlja retku, inflamatornu, multisistemsku i potencijalno životnougrožavajuću varijantu psorijaze, karakterisanu epizodama sterilnih pustula na eritematoznoj koži uz izražen sistemski inflamatorni odgovor. GPP može zahvatiti sve starosne grupe, ali se najčešće dijagnostikuje kod odraslih između 36. i 50. godine života, sa nešto većom učestalošću kod žena [1,2]. Prvi opis ove akutne forme pripisuje se austrijskom dermatologu Leopoldu fon Cumbuhu (Zumbusch) 1910. godine [2]. Etiologija i patogeneza GPP-a još nisu u potpunosti razjašnjene; poznato je da genetske predispozicije, pre svega poremećaj IL-36 signalnog puta i posledični poremećaji citokinskog odgovora i neutrofilna inflamacija doprinose razvoju bolesti, dok okidači poput infekcija, kortikosteroida, trudnoće i stresa mogu podstaći akutne epizode [3]. GPP se klinički manifestuje groznicom i difuznim sterilnim pustulama koje se javljaju u talasima na eritematoznoj koži trupa i ekstremiteta, često zahvatajući šake, stopala i nokte, uz rizik od eritrodermije i ozbiljnih sistemskih komplikacija [2]. Iako je povišena telesna temperatura česta karakteristika GPP, kod starijih i imunokompromitovanih pacijenata može izostati, pri čemu se bolest može manifestovati heterogenim kliničkim simptomima i varijabilnom učestalošću sistemskih manifestacija [4,5]. Zbog tipičnog akutnog toka, dijagnoza se uglavnom postavlja klinički, bez potrebe za histopatološkom potvrdom [6]. Lečenje GPP-a je kompleksno, ne postoje standardni algoritmi lečenja, već samo preporučene terapijske opcije. Terapijski izbor zavisi od težine bolesti, komorbiditeta i sistemskih manifestacija, te zahteva individualizovan pristup uz pažljivo praćenje inflamatornih parametara i funkcije organa, uključujući jetru [7].

Cilj ovog prikaza slučaja je opisati kompleksan klinički tok GPP praćen izraženim sistemskim inflamatornim odgovorom i razvojem hepatične disfunkcije, sa posebnim fokusom na ulogu multidisciplinarnog pristupa u diferencijalnoj dijagnostici između citokinski posredovanog oštećenja jetre i lekovima indukovane hepatotoksičnosti.

Prikaz slučaja

Muškarac starosti 69 godina, javio se u septembru 2023. godine zbog fokalno prisutnih pustula i eritemo-edematoznih plakova sa

Introduction

Generalized pustular psoriasis (GPP), also known as the von Zumbusch type, is an acute and severe variant of pustular psoriasis. It represents a rare, inflammatory, multisystem, and potentially life-threatening disease characterized by recurrent eruptions of sterile pustules on an erythematous background, accompanied by a pronounced systemic inflammatory response. GPP may occur at any age but is most commonly diagnosed in adults between 36 and 50 years, with a slight female predominance [1,2]. The condition was first described by the Austrian dermatologist Leopold von Zumbusch in 1910 [2]. Although the exact etiology remains incompletely understood, genetic predisposition – particularly dysregulation of the IL-36 signaling pathway – plays a central role, leading to cytokine imbalance and neutrophil-driven inflammation. Various triggers, including infections, corticosteroid use, pregnancy, and psychological stress, may precipitate acute episodes [3]. Clinically, GPP presents with fever and widespread sterile pustules appearing in waves on erythematous skin of the trunk and extremities, often involving the palms, soles, and nails. of the disease may progress to erythroderma and is associated with a high risk of severe systemic complications [2]. Notably, fever may be absent in elderly or immunocompromised patients, who may exhibit atypical or attenuated systemic symptoms [4,5]. Diagnosis is primarily clinical, based on characteristic morphology and disease course, although histopathological confirmation may be required in atypical cases [6]. The management of GPP is complex, as standardized treatment algorithms are lacking; current emphasize individualized therapy guided by disease severity, comorbidities, and systemic involvement, with close monitoring of inflammatory markers and organ function, particularly hepatic parameters [7]. The aim of this case report is to present a complex clinical course of GPP associated with pronounced systemic inflammation and transient hepatic dysfunction, with particular emphasis on differentiating cytokine-mediated liver injury from drug-induced hepatotoxicity within a multidisciplinary framework.

Case Report

A 69-year-old man presented in September 2023 with focally distributed pustules and erythematous-edematous plaques featuring

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grupisanim, periferno raspoređenim sterilnim pustulama, mestimično konfluirajući u jezerca pusa, lokalizovanim na trupu i ekstremitetima ***(Slika 1)****. Pored toga, na dlanovima i tabanima, prisutni su bili eritem i fisure sa eksfolijativnom deskvamacijom, uz oniholizu nokatnih ploča šaka i stopala. Pet meseci pre pojave kožnih promena imao je gušobolje i više puta ambulantno je lečen amoksicilinom. Zbog peritonzilarnog apscesa, lečen je amoksicilinom i metronidazolom, poslednji put sedam dana pre hospitalizacije. U ličnoj anamnezi zabeležena je operacija tumora mokraćne bešike 2019. godine, nakon koje je preporučena Bacillus Calmette–Guérin (BCG) terapija, ali je obustavljena zbog hematurije. Osim toga, zabeležene su i: operacija obostrane preponske kile, lumbosakralna diskopatija, hronična ulkusna bolest želuca i depresija na redovnoj terapiji. Do sada nije imao alergiju na lekove i hranu. Imao je pozitivnu porodičnu anamnezu za psorijazu, od koje mu je bolovao otac.*

Na prijemu je afebrilan. Laboratorijskim analizama utvrđene su blago povišene vrednosti zapaljenskih parametara, parametara jetre i holestaze ***(Tabela 1)****.*

Ostali biohemijski parametri, uključujući funkciju bubrega, elektrolite i proteine, varirali su u granicama dozvoljenih odstupanja. Reumatološke analize (ASTO, RF, Waaler Rose) bile su negativne. Virusološki testovi (HBV,

grouped, peripherally arranged sterile pustules, occasionally coalescing into “pustular lakes”, localized on the trunk and extremities **(Figure 1)**. Erythema, fissures, and exfoliative scaling were noted on the palms and soles, along with onycholysis affecting both fingernails and toenails. Five months prior to the onset of dermatologic symptoms, the patient experienced a sore throat and received multiple outpatient courses of amoxicillin. Subsequently, he was treated for a peritonsillar abscess with amoxicillin and metronidazole, with the final course completed seven days before hospitalization. His medical history included surgery for a bladder tumor in 2019 (with Bacillus Calmette–Guérin (BCG) therapy discontinued due to hematuria), bilateral inguinal hernia repair, lumbosacral disc disease, chronic peptic ulcer disease, and depression under regular pharmacological management. There was not history of drug or food allergies. A positive family history of psoriasis was noted in his father.

On admission, the patient was afebrile. Laboratory findings revealed mild elevations in inflammatory markers, liver enzymes, and cholestasis parameters **(Table 1)**, while renal function, electrolytes, and serum proteins were within acceptable limits. Rheumatologic testing (ASO, RF, Waaler–Rose test) was negative. Virological screening (HBV, HCV, HIV,

Slika 1. *Klinički nalaz pri prvom pregledu: sterilne pustule i eritemo-edematozni plakovi sa grupisanim, centrifugalno raspoređenim pustulama i jezercima pusa, mestimično prisutni na koži trupa i ekstremiteta*

Figure 1. Clinical findings at initial examination: sterile pustules and erythematous-edematous plaques with grouped, centrifugally distributed pustules and pus lakes, focally present on the skin of the trunk and extremities

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Tabela 1. *Zapaljenski parametri, parametri funkcije jetre i holestaze*
Table 1. Inflammatory, hepatic, and cholestatic parameters

			Laboratorijske vrednosti tokom hospitalizacije Laboratory values during hospitalization		
Parametar Parameter	*Jedinica* Unit	*Referentne vrednosti* Reference values	*Na prijemu* Admission	*Maksimalna* Peak	*Na otpustu* Discharge
CRP	mg/L	< 6	24	192	48
Leukociti/Leukocytes	$\times 10^9$/L	3.6-10.5	15.5	21.2	15.5
Neutrofili/Neutrophils	%	36-71	85.1	87.2	80.2
Limfociti/Lymphocytes	%	20-50	5.5	11.8	10
Prokalcitonin/Procalcitonin	µg/mL	< 0,05		0.66	0.08
AST	IU/L	5-34	90	236	34
ALT	IU/L	5-50	58	121	31
ALP	IU/L	<140	156	527	180
GGT	IU/L	3-55	110	594	190
LDH	IU/L	<250	378	677	168
Direktni bilirubin/Direct bilirubin	µmol/L	0-4	9.7	18.3	3.2

Legenda: *CRP – C-reaktivni protein; AST – aspartat aminotransferaza; ALT – alanin aminotransferaza; ALP – alkalna fosfataza; GGT – gama-glutamil transferaza; LDH – laktat dehidrogenaza.*
Legend: CRP – C-reactive protein; AST – aspartate aminotransferase; ALT – alanine aminotransferase; ALP – alkaline phosphatase; GGT – gamma-glutamyl transferase; LDH – lactate dehydrogenase.

HCV, HIV, CMV, EBV) nisu ukazivali na aktivnu infekciju, čime je isključena infektivna etiologija hepatitisa. Bakteriološkim brisom grla i nosa izolovan je Proteus mirabilis, hemokulturama Staphylococcus koagulaza-negativan, *dok su bakteriološki bris kože i urinokultura ostali negativni. Sediment urina ukazivao je na prisustvo svežih eritrocita i leukocita.*

Tokom prvih sedam dana hospitalizacije došlo je do naglog pogoršanja kliničke slike sa blagim porastom telesne temperature (do 37,3 °C) i pojavom novih sterilnih pustula, njihovim grupisanjem u klastere i formiranjem „jezeraca pusa“, što je rezultovalo progresijom u eritrodermiju ***(Slika 2)****. Promene su bile praćene izraženim subjektivnim osećajem pečenja i bola, zbog čega je kontinuirano tretiran paracetamolom u dozi do 1 g na dan oralno i diklofenakom 50 mg na dan parenteralno. Pacijent je bio pod multidisciplinarnim nadzorom lekara različitih specijalnosti.*

Terapija je započeta acitretinom u dozi od 50 mg dnevno, uz parenteralnu trojnu antibiotsku terapiju, koja je korigovana u skladu sa antibiogramom briseva grla i nosa te terapijskim odgovorom. Tokom lečenja zabeleženo je smanjenje inflamatornih parametara (CRP 96 mg/L, Le 14,2 × 10^9/L, Ne 86,7%), ali uz značajno pogoršanje

CMV, EBV) excluded active infection. Microbiological cultures identified *Proteus mirabilis* in throat and nasal swabs and coagulase-negative *Staphylococcus* in blood cultures, while skin swabs and urine cultures were negative. Urinalysis showed erythrocyturia and leukocyturia. During the first seven days of hospitalization, the patient's condition deteriorated, with a mild increase in body temperature (up to 37.3°C) and rapid dissemination of sterile pustules forming confluent "pustular lakes," leading to progression to erythroderma **(Figure 2)**. The lesions were associated with significant burning and pain, managed with oral paracetamol (up to 1 g daily) and parenteral diclofenac (50 mg daily). The patient was managed under a multidisciplinary team.

Systemic therapy was initiated with acitretin at a dose of 50 mg daily, along with parenteral triple antibiotic therapy tailored according to antibiogram results and clinical response. Although inflammatory markers decreased (CRP 96 mg/L, leukocytes 14.2 × 10^9/L, neutrophils 86.7%), a marked deterioration of liver function was observed **(Table 1)**. Abdominal ultrasonography and multislice computed tomography (MSCT) revealed no structural liver abnormalities, biliary obstruc-

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Slika 2. *Eritrodermija, eksfolijativna deskvamacija i oniholiza nokatnih ploča dlanova i tabana*
Figure 2. Erythroderma, exfoliative desquamation, and onycholysis of both finger a toe nails

*parametara jetre **(Tabela 1)**. Ultrazvučnim pregledom abdomena i multislajsnom kompjuterizovanom tomografijom (MSCT) abdomena i male karlice nisu uočene fokalne lezije jetre, patološki uvećani limfni čvorovi, niti strukturne promene jetre, kao ni znakovi bilijarne opstrukcije ili maligniteta, što je u korelaciji sa kliničkim tokom govorilo u prilog lekovima indukovane hepatične disfunkcije. Terapija je korigovana, kratkotrajno su obustavljeni hepatotksični lekovi među kojima i acitretin tokom sedam dana, potom doziran u dozi od 25 mg dnevno, uz parenteralnu antibiotsku terapiju ceftriaksonom i ciprofloksacinom. Na ordiniranu terapiju dolazi do značajnog poboljšanja laboratorijskih parametara **(Tabela 1)** kao i značajne kliničke regresije kožnih lezija u toku narednih mesec dana **(Slika 3)**. Tokom perioda praćenja od 24 meseca, zabeleženo je prolazno pogoršanje kliničke slike, koje je uspešno kontrolisano korekcijom doze acitretina, bez potrebe za rehospitalizacijom.*

Diskusija

Generalizovana pustulozna psorijaza predstavlja retku, tešku inflamatornu dermatozu, klinički jasno različitu od hronične plak psorijaze, sa sistemskom inflamacijom i potencijalno životnougrožavajućim tokom [8]. Prema konsenzusnoj definiciji European Rare and Severe Psoriasis Expert Network (ERASPEN) iz 2017. godine, GPP se definiše pojavom makroskopski vidljivih primarnih sterilnih pustula na neakralnoj koži (isključujući slučajeve gde su pustule

tion, lymphadenopathy, or malignancy. In conjunction with the clinical course, these findings supported a diagnosis of drug-induced hepatic dysfunction. Therapy was subsequently modified, and potentially hepatotoxic drugs, including acitretin, were temporarily discontinued for seven days. Acitretin was then reintroduced at a reduced dose of 25 mg daily, alongside parenteral antibiotic therapy with ceftriaxone and ciprofloxacin. The adjustment resulted in improvement in laboratory parameters **(Table 1)** and significant clinical improvement, with regression of cutaneous lesions over the following month **(Figure 3)**. During a 24-month follow-up period, a transient exacerbation occurred but was successfully managed by dose adjustment of acitretin without the need for rehospitalization.

Discussion

Generalized pustular psoriasis is a rare and severe inflammatory dermatosis distinct from chronic plaque psoriasis, characterized by systemic inflammation and a potentially life-threatening course [8]. According to the 2017 consensus definition of the European Rare and Severe Psoriasis Expert Network (ERASPEN), GPP is defined by the presence of macroscopically visible primary sterile pustules on non-acral skin (excluding cases where pustulation is restricted to psoriatic plaques), with mandatory exclusion of acute generalized exanthematous pustulosis

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Slika 3. *Značajna klinička regresija kožnih lezija nakon mesec dana terapije acitretinom*
Figure 3. Significant clinical regression of skin lesions after one month of acitretin therapy

ograničene samo na psorijazne plakove), uz obavezno isključivanje akutne generalizovane egzantematozne pustuloze (AGEP). U klinički tipičnim slučajevima, dijagnoza se zasniva na konsenzusno definisanim kliničkim kriterijumima [9]. Iako je pacijent bio izložen antibioticima i analgoantipireticima koji su opisani kao potencijalni okidači AGEP-a, klinički tok bolesti, morfologija kožnih lezija, odsustvo visoke temperature i izostanak eozinofilije, pozitivne porodične anamneze na psorijazu, teškog i relapsnog toka bolesti sa razvojem eritrodermije i sistemskih komplikacija, kao i izražen terapijski odgovor na acitretin, snažno „govore u prilog" dijagnozi GPP. Pored toga, za razliku od AGEP-a, koji se tipično brzo povlači nakon obustavljanja uzročnog leka, kod našeg pacijenta je, uprkos prekidu terapije, zabeležen perzistentan i relapsirajući tok bolesti, što dodatno potvrđuje dijagnozu GPP dok AGEP može biti sa velikom sigurnošću isključen ***(Tabela 2)*** *[10]. Klinička slika sa naglim početkom, generalizovanim sterilnim pustulama, izraženim sistemskim inflamatornim odgovorom i relapsnim tokom u potpunosti je odgovarala kriterijumima akutne GPP (Fon Cumbuh) [8,9].*

Razvoj eritrodermije predstavlja jednu od najtežih manifestacija GPP i odražava intenzitet sistemske inflamacije, uz povećan rizik od metaboličkih poremećaja, sekundarnih infekcija i multiorganskih komplikacija [11].

Izražena, ali prolazna hepatična disfunkcija zabeležena tokom akutne faze bolesti može se objasniti kombinacijom snažnog inflamatornog odgovora, citokinski posredovanog oštećenja jetre i terapijskog opterećenja, što je već opisano u teškim oblicima GPP. Normalizacija jetrenih parametara nakon korekcije terapije i kliničkog smirivanja bolesti dodatno potvrđuje reverzibilni karakter ovog poremećaja [12,13].

(AGEP) [9]. Although the patient had been exposed to medications known to trigger AGEP, including antibiotics and analgesics, several factors support the diagnosis of GPP: characteristic morphology of lesions, absence of high fever and eosinophilia, positive family history of psoriasis, severe and relapsing disease course, progression of erythroderma, and favorable response to acitretin therapy. In contrast to AGEP, which typically resolves rapidly after withdrawal of the offending drug, the persistent and relapsing course observed in this case further supports the diagnosis of GPP **(Table 2)** [10]. The development of erythroderma reflects the severity of systemic inflammation and is associated with increased risk of metabolic disturbances, secondary infections, and multiorgan complications [11].

The transient hepatic dysfunction observed in this case likely reflects a multifactorial process involving systemic inflammation, cytokine-mediated hepatocellular injury, and drug-induced hepatotoxicity The normalization of liver parameters following therapeutic adjustment supports the reversible nature of this condition [12,13].

Management of GPP requires prompt initiation of systemic therapy, close clinical observation, and continuous laboratory monitoring due to the high risk of systemic complications and therapy-induced toxicity. This case underscores the importance of clinical identification of GPP in accordance with ERASPEN criteria, a multidisciplinary approach, and individualized therapy, even in the absence of histopathological confirmation **(Table 3)**. Acitretin remains management cornerstone therapy for severe psoriasis, including

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Tabela 2. *Diferencijalna dijagnostika: AGEP vs GPP*
Table 2. Differential diagnosis: AGEP vs. GPP

Parametar Parameter	*AGEP (uobičajene karakteristike)* AGEP (Common features)	*Pacijent (GPP nalazi)* Patient (GPP findings)
Tok bolesti Disease course	*Brza rezolucija nakon prekida leka*/Rapid resolution after drug discontinuation	*Perzistentan, relapsni tok (24-mesečni monitoring)* Persistent, relapsing course (24-month monitoring)
Latenca i ekspozicija Latency and exposure	*Nastaje unutar 24-48 h od leka* Occurs within 24-48 h of drug exposure	*Progresija uprkos prekidu antibiotika pre 7 dana* Progression despite antibiotic discontinuation 7 days prior
Telesna temperatura Body temperature	*Visoka febrilnost (>38,5 °C)* High fever (>38.5 °C)	*Supfebrilnost (37,3° C) – tipično za stariji uzrast* Low-grade fever (37.3° C) – typical for elderly patients
Eozinofilija Eosinophilia	*Često prisutna* Often present	*Odsutna*/Absent
Porodična anamneza Family history	*Negativna za psorijazu* Negative for psoriasis	*Pozitivna (otac bolovao od psorijaze)* Positive (father had been affected by psoriasis)
Odgovor na acitretin Response to acitretin	*Nije indikovan; spontano povlačenje* Not indicated; spontaneous resolution	*Izrazita terapijska zavisnost i validacija* Marked therapeutic dependence and validation

Terapijski pristup GPP zahteva brzo uvođenje sistemske terapije uz pažljivo laboratorijsko praćenje. Prikazani slučaj naglašava važnost kliničkog prepoznavanja GPP u skladu sa ERASPEN kriterijumima, multidisciplinarnog pristupa i individualizovane terapije, čak i u odsustvu histopatološke potvrde ***(Tabela 3)****. Terapijski pristup GPP podrazumeva hitno prepoznavanje bolesti i pravovremeno uvođenje sistemske terapije, uz kontinuirano i pažljivo laboratorijsko praćenje zbog izraženog rizika od sistemskih komplikacija i terapijom indukovane toksičnosti. Acitretin predstavlja jednu od standardnih i širokoprihvaćenih terapijskih opcija u lečenju teških oblika psorijaze, uključujući GPP, ali njegova primena zahteva poseban oprez kod bolesnika sa postojećom ili tokom bolesti razvijenom hepatičnom disfunkcijom, uz redovno praćenje enzima jetre i prilagođavanje terapije u skladu s kliničkim i biohemijskim nalazima [7]. S obzirom na to da noviji biološki lekovi usmereni na specifične citokine nisu uvek lako dostupni niti dovoljno istraženi, ovaj prikaz slučaja pruža uvid u efikasnost acitretina u lečenju pustuloznih oblika psorijaze.*

Zaključak

Ovaj prikaz slučaja ukazuje na potencijalno životnougrožavajući tok generalizovane pustulozne psorijaze, komplikovan eritrodermijom, izraženim sistemskim inflamatornim odgovorom i prolaznom hepatičnom disfunkcijom. Dijagnoza je u klinički tipičnim slučajevima pouzdano postavljena u skladu sa European Rare and Se-

GPP; however, its use necessitates careful monitoring of hepatic function and dose adjustment as needed [7]. In the setting where biologic therapies targeting specific cytokines are not readily available, this case highlights the continued relevance and effectiveness of conventional systemic agents such as acitretin in the management of pustular psoriasis.

Conclusion

This case illustrated the potentially life-threatening nature of generalized pustular psoriasis, particularly when complicated by erythroderma, systemic inflammation, and transient hepatic dysfunction. In clinically typical presentations, diagnosis can be reliably established according to ERAPSEN criteria without the need for histopathological confirmation. Despite the occurrence of liver function abnormalities during systemic therapy, careful monitoring and timely therapeutic adjustments enabled safe continuation of treatment and long-term disease control. These findings underscore the importance of an individualized, multidisciplinary approach in the management of complex GPP cases.

Abbreviations

AGEP – acute generalized exanthematous pustulosis
ALP – alkaline phosphatase
ALT – alanine aminotransferase

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Tabela 3. *Korelacija ERASPEN konsenzus kriterijuma sa kliničkim i laboratorijskim nalazima prikazanog slučaja [9]*
Table 3. Correlation of ERASPEN consensus criteria with clinical and laboratory findings of the reported case [9]

Kategorija Category	*Konsenzusna definicija i preporuke (ERASPEN 2017)*/Consensus definition & recommendations (ERASPEN 2017)	*Rezultati u prikazanom slučaju (muškarac, 69 godina)*/Findings in the present case (69-year-old male)
Konsenzusna definicija Consensus definition	*Prisustvo makroskopski vidljivih primarnih sterilnih pustula na neakralnoj koži, uz obavezno isključivanje AGEP-a*/Presence of macroscopically visible primary sterile pustules on non-acral skin, with mandatory exclusion of AGEP	*Eritemo-edematozni plakovi sa grupisanim sterilnim pustulama koje formiraju „jezerca gnoja" na trupu i ekstremitetima*/Erythematous-edematous plaques with grouped sterile pustules forming "pustular lakes" on the trunk and extremities
Laboratorijske analize Laboratory testing	*Izražen sistemski inflamatorni odgovor. Kontinuirano praćenje CRP-a, leukocita i prokalcitonina* Marked systemic inflammatory response. Continuous monitoring of CRP, leukocytes, and procalcitonin is required	*Teška inflamacija sa vrednostima: CRP 192 mg/L, leukociti 21,2 × 10^9/L i prokalcitonin 0,66 μg/mL*/ Severe inflammation with CRP 192 mg/L, Leukocytes 21.2 × 10^9/L, and Procalcitonin 0.66 μg/mL
Praćenje funkcije organa Organ function monitoring	*Procena enzima jetre (AST, ALT) i parametara holestaze (ALP, GGT) zbog rizika od multiorganskog zahvatanja*/Assessment of hepatic enzymes (AST, ALT) and cholestatic parameters (ALP, GGT) due to multi-organ risk	*Značajno povećane vrednosti AST (236 IU/L), ALT (121 IU/L), ALP (527 IU/L) i GGT (594 IU/L)* Significant elevation of AST (236 IU/L), ALT (121 IU/L), ALP (527 IU/L), and GGT (594 IU/L)
Sistemske komplikacije Systemic complications	*Rizik od eritrodermije, metaboličkih poremećaja i prolazne ili lekovima izazvane hepatične disfunkcije*/Risk of erythroderma, metabolic disturbances, and transient or drug-induced hepatic dysfunction	*Brza progresija u eritrodermiju i razvoj prolazne hepatične disfunkcije* Rapid progression to erythroderma and development of transient hepatic dysfunction

vere Psoriasis Expert Network kriterijumima, bez histopatološke potvrde. Uprkos pojavi poremećaja jetrene funkcije tokom sistemske terapije, uz pažljivo laboratorijsko praćenje i pravovremenu korekciju doze, lečenje je bezbedno nastavljeno uz dugoročnu kliničku stabilizaciju bolesti, što naglašava značaj individualizovanog i multidisciplinarnog pristupa.

Skraćenice

AGEP – akutna generalizovana egzantematozna pustuloza
ALP – alkalna fosfataza
ALT – alanin aminotransferaza
AST – aspartat aminotransferaza
BCG – Bacillus Calmette–Guérin
CRP – C reaktivni protein
ERASPEN – European Rare And Severe Psoriasis Expert Network
GGT – gama-glutamil transferaza
GPP – generalizovana pustulozna psorijaza
LDH – laktat dehidrogenaza

AST – aspartate aminotransferase
BCG – Bacillus Calmette–Guérin
CRP – C-reactive protein
ERASPEN – European Rare and Severe Psoriasis Expert Network
GGT – gamma-glutamyl transferase
GPP – generalized pustular psoriasis
LDH – lactate dehydrogenase

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