Case report

Mycosis Fungoides as a Multifaceted Disease – A Case Report

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Abstract

Introduction: Mycosis fungoides (MF) is a primary cutaneous T-cell lymphoma with a highly variable clinical presentation, while histological findings are often typical. This case report presents an atypical, mimicking manifestation of MF in a 66-year-old patient, whose diagnosis required a multidisciplinary approach.

Case presentation: The patient was hospitalized twice at the Department of Dermatology and venereology, University Hospital Centre Osijek, due to a persistent polymorphic rash of changing appearance, localized on the trunk, extremities, face, and the scalp. Considering the atypical clinical course, resistance to topical and systemic therapy, further diagnostic evaluation was required, including immunological, hematological, pulmonary, and infectious disease workup. Multidisciplinary collaboration ultimately led to the establishment of the MF diagnosis.

Management and outcome: After failing to respond to topical and systemic corticosteroids, immunomodulators, antibiotics, and hydroxychloroquine, the patient showed a successful therapeutic response to oral methotrexate at a dose of 15 mg once weekly, resulting in complete resolution of skin lesions.

Discussion: This clinical case serves as an example of an atypical clinical and histological presentation of MF, along with associated multiple pathological findings, which necessitated the exclusion of several other differential diagnoses.

Conclusion: MF can mimic a wide spectrum of benign inflammatory dermatoses, both clinically and histopathologically. Confirming the diagnosis of MF, the so-called “great imitator”, requires a multidisciplinary approach to both diagnosis and patient management.

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Introduction

Although Mycosis fungoides (MF) is the most common cutaneous T-cell lymphoma, it can present with a variable clinical picture. Based on the presence of symptoms, three stages are distinguished: the early (premycotic), infiltrative and tumor stage (1). The histopathological findings depend on the stage at which the biopsy is performed. In the early stage, histopathological findings are often nonspecific and may overlap with those other inflammatory or neoplastic diseases, while in the infiltrative and tumor stages, histopathological findings show typical changes (Figure 1.) (2). This paper presents a rare case of MF in a 66-year-old patient whose diagnosis required a multidisciplinary approach due to atypical clinical presentation and atypical histopathological findings.

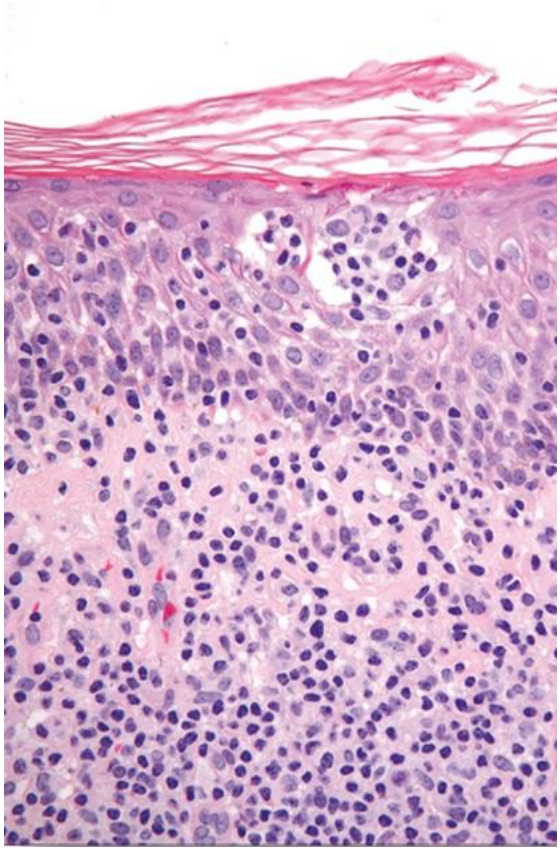

Figure 1. Mycosis fungoides histology shows epidermotropism with Pautrier microabscesses, clusters of atypical lymphocytes with cerebriform nuclei in the epidermis, accompanied by a dermal lymphocytic infiltrate.

Case presentation

A 66-year-old male presented to the dermatology department in January 2024 due to two erythematous maculopapular lesions on his back, which had been present for the past two months. Following the recommendation of his primary care physician, he had been using topical corticosteroid therapy with miconazole but noted no improvement. Based on this, the dermatologist prescribed the following therapy: betamethasone, gentamicin, and clotrimazole twice daily for 14 days. The patient was referred for histopathological evaluation and fungal testing of the skin. Skin scraping for fungi was negative. A chest X-ray was unremarkable, while abdominal ultrasound demonstrated a calcified lesion in the seventh liver segment, likely corresponding to a calcified cyst. Ultrasound of peripheral lymph nodes was normal.

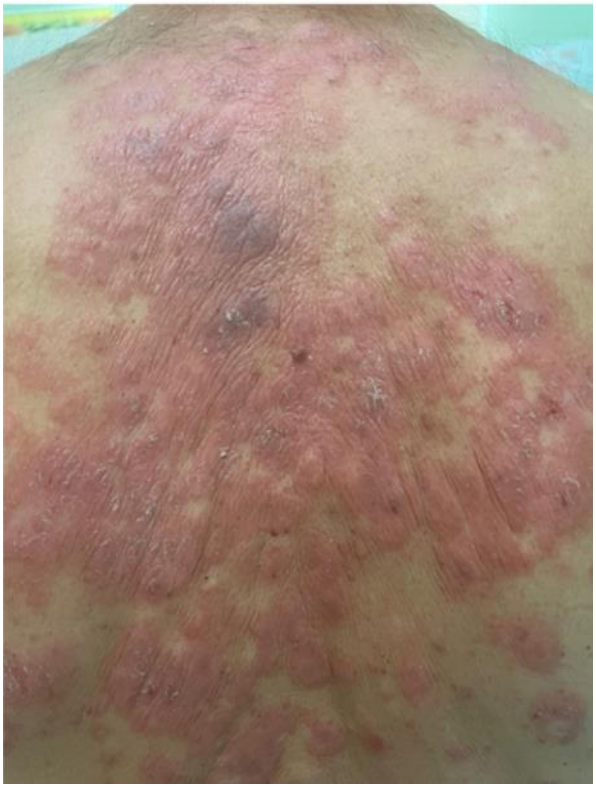

Figure 2. Extensive erythematous infiltrated patches, mostly of nummular size, with several erythematous and livid plaques. The lesions were predominantly localized on the trunk, with lesser involvement of the skin of the extremities, face, and scalp.

In the patient's personal and family history, there were no chronic or malignant diseases. He reported having experienced a severe allergic reaction to gasoline vapors several years earlier at work, and he still occasionally comes into contact with adhesives and paints due to his job. He was not taking any medications.

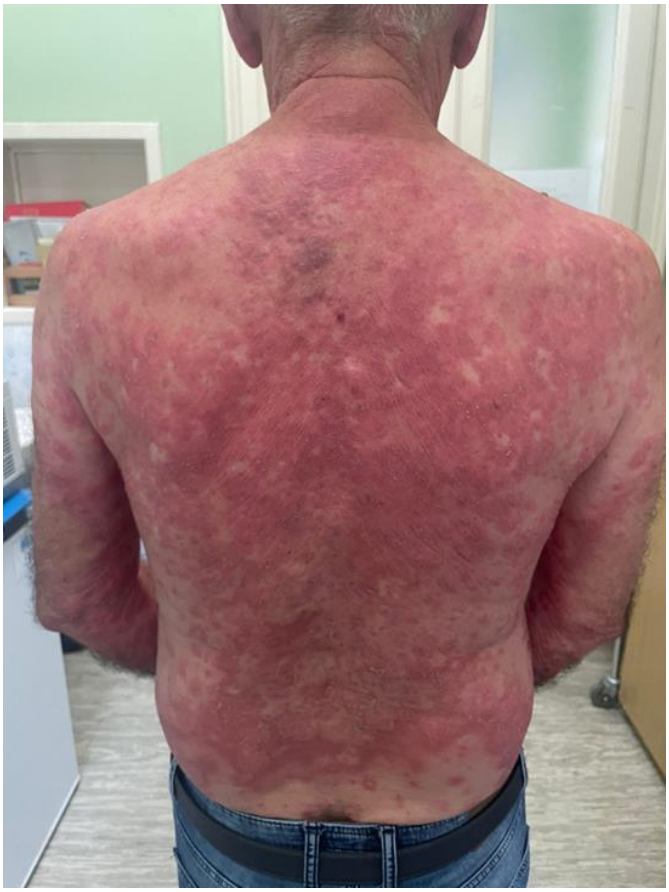

Figure 3. Skin lesions at the time of the first hospitalization. Generalized erythematous, minimally infiltrated, and slightly scaly plaques ranging in size from nummular to palm-sized, confluent and covering larger areas on the trunk, inguinal region and extremities.

In June 2024, the patient presented again with worsening of skin lesions accompanied by intense pruritus (Figure 2.). A repeat histopathological examination was performed, and topical corticosteroid therapy was recommended. The new histopathological report described a spongiotic type of dermatitis with elements of lichenification, without definitive features to establish a diagnosis of MF.

Due to generalized skin changes, the patient was hospitalized (Figure 3.). Laboratory findings revealed elevated leukocytes (14.8 × 10^9/L) and neutrophils (78.2%). The bacteriological urine culture was completely normal. Among tumor markers, elevated values were noted for PSA (4.17 µg/L), Ca 72-4 (27.8 kIU/L), and NSE (17.5 µg/L). Additionally, a markedly elevated IgE level (2380 IU/mL) was observed. Upon hematology consultation, serum protein electrophoresis was performed, along with quantitative determination of serum immunoglobulins, assessment of free light chain, kappa/lambda ratio, immunophenotyping of peripheral blood, and bone marrow biopsy, all of which were within normal limits. Due to suspicion of a paraneoplastic syndrome, abdominal CT was performed, revealing an irregularly shaped calcified lesion measuring approximately 22 mm in seventh liver segment, consistent with a calcified hydatid cyst. In the sigmoid colon, diverticulosis without signs of inflammation was described. Additionally, fibroadipose band-like changes of the pulmonary parenchyma were observed bilaterally at the lung bases, along with a non-specific nodular lesion measuring 7 mm, located subpleurally in the lateral segment of the left lower lobe. A Quantiferon test was performed, yielding a positive result. The pulmonologist recommended radiological follow-up of the pulmonary nodular lesion. Due to the finding of elevated cardiolipin antibodies of the IgM class (166 MPL) and clinical suspicion of subacute lupus, an immunologist was consulted and requested additional diagnostic evaluation. A third skin biopsy was performed, revealing a spongiotic, subchronic type of dermatitis, without features consistent with MF or cutaneous lupus erythematosus. The patient was discharged from the hospital with persisting skin lesions and prescribed the following therapy: topical corticosteroids and immunomodulators, oral prednisone 30 mg once daily, hydroxychloroquine 200 mg twice daily, and fexofenadine 180 mg once daily.

In October 2024, the patient was re-hospitalized at the Department of Dermatology and Venereology, University Hospital Centre Osijek,

due to persistent skin lesions despite recommended therapy. Because of suspected echinococcal cyst, as suggested by the infectious disease specialist, additional serological testing of serum and skin tissue for parasites was performed. Serology for Echinococcus spp. and E. multilocularis was negative. Serology for Toxoplasma gondii and Toxocara spp. was positive, and therapy with mebendazole was initiated. However, no improvement of the cutaneous lesions was observed. The chronicity of the disease caused changes in the patient's mental state, for which a psychiatrist at the Psychodermatology Department was consulted. A fourth skin biopsy was performed. Histological examination of two out of three samples revealed a psoriasiform epidermal hyperplasia with marked parakeratosis and moderate to abundant infiltrates of small to medium-sized lymphocytes, with Pautrier microabscesses in the basal and suprabasal layers of the epidermis. These findings were consistent with a primary cutaneous lymphoma of the Mycosis fungoides type. Following this histopathological confirmation, therapy with methotrexate was initiated at a dose of 15 mg once weekly, combined with folic acid 5 mg 24 hours after methotrexate administration. This regimen resulted in almost complete resolution of pruritus and skin lesions approximately six weeks after methotrexate was included in the therapy. (Figure 4.).

At the subsequent follow-up examination, the methotrexate dose was reduced to 10 mg once weekly. The patient did not require additional topical therapy. Continued follow-up with regular monitoring by dermatology, pulmonology, hematology, and immunology specialists was recommended.

Discussion

Establishing a definitive diagnosis of MF can be particularly challenging, especially in the early and infiltrative stages of the disease. The median time from the onset of initial symptoms to diagnosis in retrospective studies is reported to be 3 to 4 years. Histopathological findings may often be merely "suggestive", rather than definitive for diagnosis (3,4). Treatment with topical corticosteroids or systemic immunosuppressants may significantly alter biopsy findings, as they can reduce the density of neoplastic T cells in the skin for 3 to 4 weeks, thus complicating the histopathological picture (5). In general, men are more frequently affected than women. In Black patients, the disease occurs at an earlier age than in White patients (the median age is 53 years in Black patients compared with 63 years in White patients) (6). Establishing the diagnosis is often difficult, requiring close clinicopathological correlation.

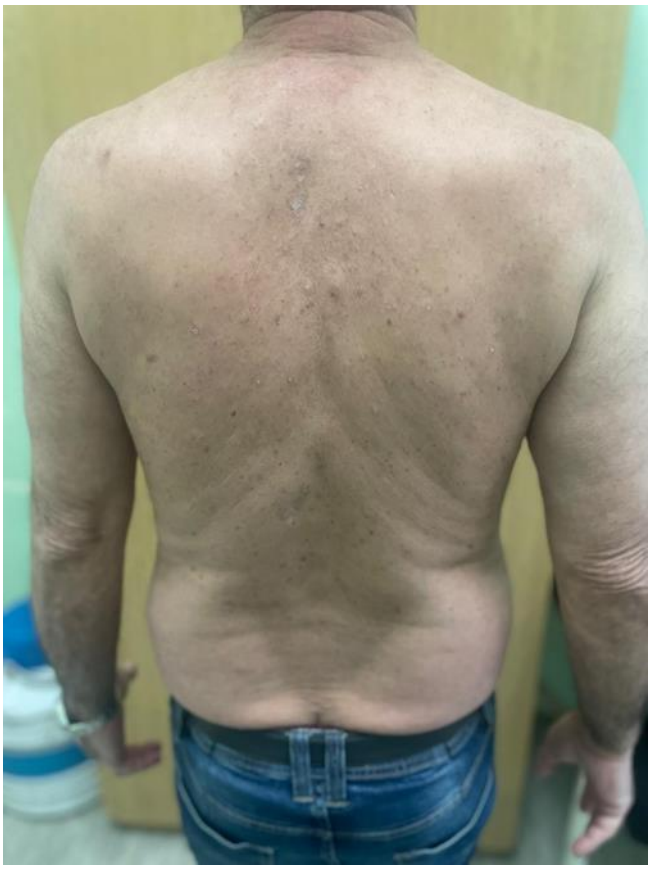

Figure 4. Condition of the skin after the introduction of methotrexate into therapy. There was an almost complete regression of skin lesions and itching.

A multidisciplinary approach involving dermatologists, hematologists, pathologists, and radiologists is crucial for accurate diagnosis of MF. In our case, additional consultations with infectious disease specialists, immunologists, and psychiatrists were required. Due to the chronic nature of the disease, patients may also

develop depression and anxiety, often related to uncertainty about disease progression. Therefore, taking a detailed medical history is of critical importance, with particular attention to disease progression, localization of skin lesions, signs of systemic involvement, and response to prior therapies. The morphology of MF lesions may resemble other benign inflammatory dermatoses, such as eczema or psoriasis, making it essential to carefully evaluate the distribution of lesions on the body. In MF, lesions most commonly occur on sun-protected areas, such as the trunk, buttocks, and breasts, while they are less frequent on the extremities and the head (7–9). The etiopathogenesis of the disease remains poorly understood. It is most likely the result of a combination of environmental and genetic factors. A possible association with long-term exposure to certain environmental allergens has also been reported. In patients with MF, significant seropositivity for cytomegalovirus has been reported, suggesting that viral infections may play a role in the etiopathogenesis of the disease. Another proposed mechanism is altered activation of T cells (1,10). In terms of therapeutic approaches, during the early stages of the disease, local therapy with corticosteroids, topical cytostatics, and topical retinoids, such as bexarotene gel, is commonly employed. Narrowband UVB phototherapy and psoralen plus UVA (PUVA) therapy are also effective options. For more advanced stages, MF may be managed with PUVA therapy combined with retinoids, recombinant interferon-α, bexarotene, or low-dose methotrexate, as was the case with our patient. In addition, surface radiotherapy and radiotherapy using a linear accelerator are recommended. The effectiveness of interferon-α in the treatment of MF has been confirmed in numerous studies. Its mechanism of action is based on stimulating the activation of CD8+ T cells and NK cells, as well as reducing Th2 activity, thereby correcting the immunological imbalance seen in MF. The most commonly used forms are recombinant interferon-α 2a and interferon-α 2b (11). In the treatment of advanced stages of cutaneous lymphomas, monoclonal antibody alemtuzumab, recombinant fusion protein denileukin diftitox, and extracorporeal photopheresis are used (1). Mogamulizumab and brentuximab vedotin are also used for the treatment of advanced cases of the disease. Mogamulizumab is a monoclonal antibody targeting the CCR4 receptor, which is expressed on MF cells, and it is approved in Europe for the treatment of advanced stages in patients who have previously received at least one type of systemic therapy. Brentuximab vedotin is an IgG1 and CD30 antibody conjugated to the cytostatic agent monomethyl auristatin E, and it is approved in Europe for the treatment of patients with CD30+ cutaneous T-cell lymphomas, including MF (12). During the literature review, we identified a similar case report describing clinical findings resembling those of our patient. This case involved a 50-year-old male with multiple erythematous, scaly patches that initially appeared on the thighs and buttocks and persisted for seven years, with alternating periods of remission and exacerbation during topical corticosteroid treatment. Unlike in our case report, this patient had previously been diagnosed with diffuse B-cell lymphoma, and histopathological findings from repeated skin biopsies consistently supported the diagnosis of MF (10).

Conclusion

The diagnosis of MF may be particularly challenging, necessitating the involvement of a multidisciplinary team. In cases where histopathological findings alone are insufficient for a definitive diagnosis, clinicopathological correlation becomes essential. This requires careful consideration of the clinical presentation, disease duration and progression, lesion distribution, and patient comorbidities.

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Disclosure

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References

1. Basta-Juzbašić A. Dermatovenerologija. Zagreb: Medicinska naklada; 2014. 826 p.

2. Yamashita T, Abbade LPF, Marques MEA, Marques SA. Mycosis fungoides and Sézary syndrome: clinical, histopathological and immunohistochemical review and update. An Bras Dermatol. 2012 Dec;87(6):817–30.

3. Hristov AC, Tejasvi T, Wilcox RA. Mycosis fungoides and Sézary syndrome: 2019 update on diagnosis, risk-stratification, and management. Am J Hematol. 2019 Sept;94(9):1027–41.

4. Hristov AC, Tejasvi T, A. Wilcox R. Cutaneous T-cell lymphomas: 2021 update on diagnosis, risk-stratification, and management. Am J Hematol. 2021 Oct;96(10):1313–28.

5. Hristov AC, Tejasvi T, Wilcox RA. Cutaneous T-cell lymphomas: 2023 update on diagnosis, risk-stratification, and management. Am J Hematol. 2023 Jan;98(1):193–209.

6. Larocca C, Kupper T. Mycosis Fungoides and Sézary Syndrome. Hematol Oncol Clin North Am. 2019 Feb;33(1):103–20.

7. Maguire A, Puelles J, Raboisson P, Chavda R, Gabriel S, Thornton S. Early-stage Mycosis Fungoides: Epidemiology and Prognosis. Acta Derm Venereol. 2020;100(1):1–6.

8. Sheern C, Levell NJ, Craig PJ, Jeffrey P, Mistry K, Scorer MJ, et al. Mycosis fungoides: a review.

9. Miyashiro D, Sanches JA. Mycosis fungoides and Sézary syndrome: clinical presentation, diagnosis, staging, and therapeutic management. Front Oncol. 2023 Apr 14;13:1141108.

10. Mathur M, Thakur N, Regmi S, Paudel S, Karki S, Bhattarai N. "Missed" Diagnosis of Mycosis Fungoides: A Case Report. Clin Case Rep. 2025 Feb;13(2):e70172.

11. Spaccarelli N, Rook AH. The Use of Interferons in the Treatment of Cutaneous T-Cell Lymphoma. Dermatol Clin. 2015 Oct;33(4):731–45.

12. Latzka J, Assaf C, Bagot M, Cozzio A, Dummer R, Guenova E, et al. EORTC consensus recommendations for the treatment of mycosis fungoides/Sézary syndrome – Update 2023. Eur J Cancer. 2023 Dec;195:113343.

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Administrative, technical, or logistic support: MŽ, LL, MVP
Analysis and interpretation of data: MŽ, LL, MVP
Conception and design: MŽ, LL, MVP
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Drafting of the article: MŽ, LL, MVP
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Mycosis fungoides kao bolest s više lica- prikaz slučaja

Sažetak

Uvod: *Mycosis fungoides* (MF) je primarni T stanični limfom kože kod kojeg klinička slika može biti raznolika uz često tipičan histološki nalaz Ovaj slučaj prikazuje atipičnu, imitirajuću prezentaciju MF 66-godišnjeg pacijenta kod kojeg je za postavljanje bio potreban multidisciplinarni pristup.

Anamneza: Pacijent je u dva navrata hospitaliziran u Zavodu za dermatologiju i venerologiju KBC Osijek radi perzistirajućeg polimorfnog osipa koji je mijenjao izgled, a bio je prisutan na trupu, udovima, licu i vlasištu. S obzirom na atipičnu kliničku sliku, rezultate dijagnostičke obrade, kao i na rezistentnost bolesti na topikalnu i sustavnu terapiju pristup ovom pacijentu je zahtijevao detaljnu imunološku, hematološku, pulmološku i infektološku obradu. Multidisciplinarna suradnja rezultirala je definiranjem dijagnoze MF.

Terapija i ishod: Nakon neuspješnog odgovora na topikalnu i sustavnu terapiju kortikosteroidima, imunomodulatorima, antibioticima i hidroksiklorokinom, pacijent je uspješno odgovorio na peroralnu terapiju metotreksatom u dozi od 15 mg jednom tjedno nakon čega su se kožne promjene u potpunosti povukle.

Rasprava: Ovaj klinički slučaj izdvojen je kao primjer atipične kliničke i histološke slike MF kao i udruženih multiplih patoloških nalaza koji su zahtijevali isključenje više drugih dijagnoza.

Zaključak: MF može simulirati širok raspon benignih upalnih poremećaja kože, bilo klinički ili histopatološki. To potvrđuje da je MF „veliki imitator“, te zahtijeva multidisciplinaran pristup u dijagnostici i liječenju pacijenata.

Ključne riječi: epidermotropiza; metotreksat; *Mycosis fungoides*