

Short thesis for the degree of Doctor of Philosophy (PhD)

Clinical and biological prognostic features of patients with follicular lymphoma

by Kenyeres Anna, MD

Supervisor: Ádám Jóna, MD, PhD



UNIVERSITY OF DEBRECEN

Doctoral School of Clinical Medicine

Debrecen, 2026

Clinical and biological prognostic features of patients with follicular lymphoma

By Anna Kenyeres

Supervisor: Ádám Jóna, PhD

Doctoral School of Clinical Medicine, University of Debrecen

Head of the Examination Committee: Gabriella Szűcs, PhD, DSc

Members of the Examination Committee: Bence Bátai, PhD

Eszter Janka, PhD

The Examination takes place at the 2nd Floor Lecture Room of Building B, Department of Internal Medicine, Faculty of Medicine, University of Debrecen on 26th August 2026 at 11:00

Head of the Defense Committee: Gabriella Szűcs, PhD, DSc

Reviewers: Éva Zöld, PhD

Ágnes Fehér, PhD

Members of the Defense Committee: Bence Bátai, PhD

Eszter Janka, PhD

The PhD Defense takes place at the Lecture Hall of Building A, Department of Internal Medicine, Faculty of Medicine, University of Debrecen on 26th August 2026 at 13:00

1. Literature review of follicular lymphoma

1.1. Epidemiology and pathogenesis

Follicular lymphoma (FL) is the second most common B-cell and the most common indolent non-Hodgkin lymphoma (NHL). Indolent lymphomas are generally characterized by a chronic course, with remissions and relapses alternating during treatment. FL is a highly heterogeneous group of diseases, and while the expected survival of FL patients has increased significantly since the widespread use of the anti-CD20 monoclonal antibody rituximab, 20% of patients can expect a more aggressive course, refractoriness, early relapse or histological transformation, which poses challenges for clinicians.

FL is a hematological malignancy originating in the germinal center (GC) of lymph nodes. Due to an error occurring during VDJ recombination in the bone marrow, a t(14;18) translocation can develop in immature B cells, and the resulting Bcl-2 overactivity gives a selection advantage to the B cells in the GC. B cells with the translocation – tumor precursor – can acquire further mutations when they return to the GC. FL cells develop as the result of clonal evolution, and diverse acquired mutations of the tumor precursor cells are responsible for later relapses and histological transformation.

1.2. Clinical features and diagnosis

FL patients usually present with painless peripheral lymph node swelling that has been present for months to years. Hilar and mediastinal involvement is also common, as is abdominal lymphadenomegaly, which is often discovered during routine imaging. So-called B symptoms, such as fever, night sweats, and weight loss, occur in less than 20% of cases. Bone marrow involvement occurs in 70-80% of cases.

The diagnosis of FL is based on histological, morphological, and immunohistochemical examination of surgically removed entire lymph nodes or core needle biopsy specimens. Morphological examination reveals the disappearance of normal lymph node structure, and neoplastic cells may infiltrate the capsule and surrounding adipose tissue. Neoplastic follicles are round and homogeneous in appearance, containing small to medium-sized, split-nucleated centrocytes and larger, unspliced centroblasts. FL is typically characterized by immunohistochemical staining with BCL2+, BCL6+, CD3-, CD5-, CD10+, CD20+, CD23+/-, CD43-, cyclinD1- and Ki67+ immunophenotypes.

The totality of cellular and non-cellular components surrounding tumor cells is called the tumor microenvironment (TME), which plays a fundamental role in tumor growth, survival, progression and development of therapy resistance. Components of the TME include stromal cells (fibroblasts, endothelial cells), immune cells (T cells,

natural killer cells, dendritic cells, macrophages), the extracellular matrix, and various cytokines, chemokines and growth factors.

Tumor-associated macrophages (TAMs) are one of the most important cellular components of the TME. Macrophage function can be described along a dynamically changing spectrum between two extreme activation phenotypes, M1 (classically activated, inflammatory, antitumor) and M2 (alternatively activated, immunosuppressive, tumor-promoting). The majority of TAMs are polarized towards the M2-like phenotype, promoting tumor cell survival and inhibiting effector T-cell immune responses.

1.3. Staging and prognosis

Since the widespread use of PET/CT, the modified Ann-Arbori classification has been used to determine the extent of FDG-avid lymphomas and to assess response to treatment. PET/CT has an outstanding sensitivity in detecting extranodal manifestations, and it also helps to separate living, active tumor tissue from scar tissue in response assessment, and – in case of relapse or progression – it identifies the optimal site for rebiopsy.

Patients diagnosed with FL have a favorable survival rate, with median overall survival (OS) approaching 20 years despite repeated relapses. However, in a group of patients, the lymphoma has a more aggressive course. The aim of the study of different prognostic factors is to identify

those factors that can be independently associated with the expected course and outcome of the disease. By combining the factors, we can create so-called prognostic indices, which can be used to increase the intensity of treatment in high-risk patients, while in cases of more favorable expected outcome, we can avoid toxicity caused by overtreatment.

The oldest used Follicular Lymphoma International Prognostic Index (FLIPI) is still regularly used in everyday practice. However, there is an unmet need for an easily accessible, widely used predictive system that provides guidance in planning therapy at the time of diagnosis of the disease.

The basis of the various prognostic indices is the International Prognostic Index (IPI), which was first used in aggressive lymphomas, with which patients were classified into groups characterized by different survival curves based on the patient's age, stage of the disease, serum LDH level, ECOG performance status and the number of affected extranodal sites. In later created prognostic indices, these parameters were supplemented by several factors. Patients' gender, presence of B-symptoms, hemoglobin value, number of involved lymph nodes, length of largest lymph node, bone marrow involvement, beta-2 microglobulin level, total metabolic tumor volume, mutation status of various genes, peripheral blood lymphocyte count, and absolute natural killer cell count influenced FL patient survival.

1.4. Treatment

FL can present with a wide range of clinical presentations, and treatment strategies may vary widely.

Approximately 20-30% of FL patients have no indication for treatment at the time of diagnosis, and a watchful waiting strategy is chosen for them.

In less than 20% of patients, FL is diagnosed in localized, stage I-II disease. In these cases, the preferred approach is 24-32 Gy involved field radiotherapy, which provides long-term complete remission in approximately 50% of cases. Combining radiotherapy with immunochemotherapy (ICT) significantly increased progression free survival (PFS) but did not affect OS. The optimal outcome in terms of the balance of efficacy and side effects is expected to be achieved by combining radiotherapy with rituximab monotherapy. In localized cases with high tumor burden, when radiotherapy is not feasible, systemic therapy used in extensive disease may be justified.

In 70-80% of patients, FL is diagnosed at an advanced stage (III-IV). Considering the slow progression of the disease, incurability, long median survival time, and side effects of treatments, in the case of asymptomatic patients with a low tumor burden, watchful waiting is favorable, as there is no demonstrable OS benefit of early treatment. The indication for treatment most often occurs in the first 24 months from diagnosis. In cases with a low tumor burden, an alternative option is

rituximab monotherapy. In the case of disseminated, symptomatic disease, if the criteria for treatment initiation are met, patients receive combined ICT. The addition of anti-CD20 monoclonal antibody to chemotherapy protocols significantly improved both the therapeutic response rate, PFS, and OS, so its use, together with maintenance immunotherapy, is the gold standard in the treatment of FL. Based on studies aimed at determining the optimal treatment protocol, the rituximab-bendamustine (RB) and rituximab, cyclophosphamide, doxorubicin, vincristine, prednisolone (R-CHOP) protocols provide the longest PFS and time to next treatment (TTNT), but do not provide an OS advantage. Of the two anti-CD20 monoclonal antibodies, obinutuzumab-based treatment performed better than rituximab in terms of PFS. Considering the trade-offs between efficacy and toxicity, bendamustine-based treatment is advantageous in younger, high-risk patients, or in cases where anthracycline-based treatment is contraindicated due to cardiotoxicity.

Evaluation of the response to treatment with appropriate imaging, such as PET/CT, is always justified during treatment and after the end of ICT. Persistent PET positivity, which is present in approximately 20-25% of patients, should be considered an unfavorable prognostic marker.

Although FL patients have an extremely good initial response rate to first-line treatments, the nature of the disease means that they will relapse repeatedly throughout their lives. With the available treatments, the durability of remission usually decreases with the number of lines of

therapy. In case of relapse or progression, a further confirmatory – preferably PET/CT-guided – lymph node biopsy is always warranted to exclude histological transformation. The choice of salvage treatment depends on the efficacy and durability of previous treatments, as well as the extent of the disease at relapse. In the case of a high tumor burden, bulky disease, non-cross-resistant ICT is the preferred treatment. In patients with a lower tumor burden and relapse, less intensive treatments, such as rituximab monotherapy or immunomodulatory or targeted therapies, have a *raison d'être*. Significant response rates can be achieved with the addition of lenalidomide, Bruton's tyrosine kinase inhibitor zanubrutinib, and oral tazemetostat, an inhibitor of the EZH2 epigenetic regulator, as well as the CD19-specific monoclonal antibody tafasitamab.

Among T-cell immune-based therapies, chimeric antigen receptor (CAR) T-cell therapies and bispecific antibodies are showing promise for chemorefractory B-cell leukemias and lymphomas, including follicular lymphoma.

Despite the expanding range of treatment options for relapsed/refractory (R/R) FL, autologous stem cell transplantation (ASCT) remains an important possibility. In the absence of an OS benefit, ASCT is not recommended as consolidation following first-line FL treatment, but it should be considered if a relapsed patient achieves complete metabolic response with salvage therapy. Although ASCT reduces the risk of relapse, it is not expected to be curative, so its use must be balanced

against the increased risk of early and late complications, in addition to the benefit in PFS.

In contrast to ASCT, allogeneic SCT is a potentially curative option in the treatment of R/R FL due to the graft-versus-lymphoma effect.

2. Objectives

Among the follicular lymphoma patients treated at the Department of Hematology of the University of Debrecen since 2004:

1. Review of clinicopathological characteristics and retrospective analysis of these parameters influencing survival
2. The prognostic role of imaging in patient survival based on PET/CT examinations performed during diagnosis and follow-up
3. Examination of the prognostic role of the lymphocyte/monocyte ratio among laboratory parameters.

Among patients with relapsed/refractory follicular lymphoma who underwent autologous stem cell transplantation:

4. Examination of the clinical characteristics and survival data of the patients.
5. Examination of the prognostic role of age and lymphocyte/monocyte ratio.

3. Patients and methods

During the study, we retrospectively analyzed the data of follicular lymphoma patients treated at the Department of Hematology of the University of Debrecen between May 1, 2009 and June 30, 2020. Among the possible prognostic factors influencing survival, we examined the histological grade, the age and gender of the patients, the stage of the disease, the maximum standardized uptake value (SUVmax) measured on staging, interim and restaging PET/CT, the presence of B symptoms, bone marrow involvement, ECOG status, and laboratory parameters: hemoglobin, LDH and B2M values, as well as the absolute lymphocyte and monocyte counts and their ratios. The progression within 24 months (POD24) was calculated from the date of diagnosis.

The diagnosis of FL was based on histological sampling in all cases. Staging PET/CT was performed for all patients unless there was an urgent indication for treatment or the patient's treatment was initiated at an institution without PET/CT access. Interim PET/CT was performed after 3 cycles of treatment, while restaging PET/CT was performed 4-6 weeks after the end of induction treatment.

If treatment indication was present based on the GELF criteria, patients received treatment according to current institutional recommendations. Otherwise, we used watch and wait strategy. Elderly, comorbid patients received rituximab monotherapy, and radiotherapy was used in the case of localized disease. In the case of histological grade 1-2 disease, rituximab immunotherapy was combined with chemotherapy according

to the CVP (cyclophosphamide, vincristine, prednisolone) protocol, and then with bendamustine after the widespread use of bendamustine. In the case of grade 3 disease, patients received R-CHOP treatment. The outcome of the disease was determined based on PFS and OS.

As the continuation of the study, we identified follicular lymphoma patients who underwent ASCT between 2004 and 2021 and investigated factors that may influence post-transplant PFS and OS. The following parameters were collected: age, histological grade, stage, time to progression, date of transplantation, type of conditioning regimen, disease status before transplantation, pre-transplant SUVmax, FLIPI, bone marrow involvement, absolute lymphocyte and monocyte counts, Ly/Mo ratio, hemoglobin, LDH and B2M values.

Patients who relapsed were treated with dexamethasone, cytarabine and cisplatin (DHAP) chemotherapy in combination with rituximab or obinutuzumab. Peripheral stem cell collection was performed in conjunction with the second or third cycle of anti-CD20-DHAP treatment. Patients who achieved at least partial remission underwent ASCT. We assessed the stage of the disease before transplantation by contrast-enhanced CT scan before 2009 and subsequently by PET/CT scan. To exclude histological transformation, the most easily accessible lymph node with the highest SUVmax value was sampled at the time of relapse or progression.

4. Results

4.1. Overview of clinical data of follicular lymphoma patients

The median age of the 143 follicular lymphoma patients studied was 54 years. In nearly 80% of the cases, extensive disease was confirmed at the time of diagnosis, B-symptoms were present in less than 40% of the patients. In two-thirds of the cases, low-grade, 1-2 histological grade follicular lymphoma was confirmed. A total of 114 staging PET/CT examinations were performed, of which interim PET/CT and restaging PET/CT results were available in 64 cases. The first-line treatment was predominantly ICT, combining anti-CD20 monoclonal antibody with CHOP, CVP or bendamustine chemotherapy regimen.

According to univariate analysis, SUVmax, LDH value, absolute monocyte count, and Ly/Mo ratio measured on staging, interim, and restaging PET/CT influenced PFS.

This served as the basis for the following two multivariate analyses performed using the Enter method. In the first model, we examined staging and interim SUVmax values, LDH value, and Ly/Mo ratio, in which staging and interim SUVmax values remained independent prognostic factors for PFS. In the second model, we examined staging SUVmax, Ly/Mo ratio, and LDH value, based on which staging SUVmax and Ly/Mo ratio emerged as independent prognostic factors for PFS.

4.2. Prognostic value of PET/CT examination

A total of 114 patients underwent PET/CT as a staging examination since May 2009. Based on the ROC curve, the SUV_{max} cut-off value was 9.85, at which the PFS of the patients showed a significant difference. In the case of SUV_{max} >9.85, the median PFS was 47 months, while in the case of SUV_{max} ≤9.85, the median PFS was not reached. The 5-year PFS was 46.36% for SUV_{max} >9.85, and 85.63% for SUV_{max} ≤9.85.

Interim PET/CT examination was performed in a total of 64 patients. Based on the ROC curve, the SUV_{max} cut-off value was 3.15. In the case of SUV_{max} >3.15, the median PFS was 32 months, while in the case of SUV_{max} ≤3.15, the median PFS was not reached. The 5-year PFS in these groups was 34.86% and 82.94%, respectively.

Restaging PET/CT was performed in 80 patients. Based on the ROC curve, the SUV_{max} cut-off value was determined as 2.68. For restaging SUV_{max} >2.68, the median PFS was 42 months, while for values ≤2.68, the median PFS was not reached.

OS was not significantly affected by the results of PET/CT performed at any time point.

4.3. Lymphocyte/monocyte ratio analysis and its prognostic value

The medical data management system had blood counts available for 128 patients at the time of diagnosis. Based on these, we determined the cut-

off value of the Ly/Mo ratio, which was 3.41, using the ROC curve. The median PFS was not reached in any subgroup, the 5-year PFS was 85.30% for Ly/Mo >3.41 and 55.73% for Ly/Mo <3.41, while there was no significant difference in OS here either.

4.4. Combined prognostic markers

By combining the different prognostic factors, we managed to define a group with a particularly high risk for PFS. In patients whose staging SUVmax was >9.85 and Ly/Mo <3.41, the median PFS was 42 months, while in the other patients the median PFS was not reached. The 5-year PFS was 37.59% in high-risk patients and 86.16% in the rest. Patients with staging SUVmax >9.85 and interim SUVmax >3.15 were also defined as high-risk, with a median PFS of 21 months, while the rest did not reach this. The 5-year PFS was 25.45% in the high-risk group and 81.035% in the rest.

4.5. Overview of clinical data of patients who underwent autologous stem cell transplantation

During the study period, between 2004 and 2011, 49 FL patients received ASCT at the Department of Hematology of the University of Debrecen. The median age of the patients was 48 years. The histological diagnosis of most patients was grade 2 or 3a FL, their median ECOG status was 0,

and their median Karnofsky index was 100%. The vast majority of patients (46 patients) received cyclophosphamide-based first-line immunochemotherapy (R-CVP or R-CHOP), 3 patients received RB treatment. 16 patients received maintenance rituximab treatment. POD24 was observed in 38 patients. In 75% of the patients, ASCT was performed after the first chemosensitive relapse, while 25% of the patients received multiple prior treatments. Before transplantation, all patients, except one patient with rituximab allergy, received conditioning treatment according to the anti-CD20-BEAM (BCNU, etoposide, cytarabine, melphalan) protocol. 55% of patients underwent transplantation in complete remission, while 45% were in partial remission. More than half of the patients had a high FLIPI score before transplantation. The median hospital stay was 23 days. The median follow-up time was 37 months (range 1-196 months), during which the median PFS was 48 months after transplantation and the median OS was not reached. The plateau phase of the survival curve was reached by 9 patients, whose PFS exceeded 98 months, and they can be considered functionally cured. Due to the retrospective nature of the study, we did not have a control group of patients who did not undergo ASCT. Patients who did not receive ASCT during this period had significantly worse clinical characteristics, so their disease course was not comparable to that of patients who underwent transplantation.

4.6. Age and lymphocyte/monocyte ratio and their prognostic value in patients undergoing autologous stem cell transplantation

Based on multivariate analysis, age and Ly/Mo ratio influenced PFS, while only age proved to be prognostic for OS. Both variables had prognostic value in predicting relapse after transplantation. According to multivariate analysis, there was no significant difference between patients transplanted in first chemosensitive relapse and those receiving multiple lines of treatment in terms of PFS or OS.

Based on ROC curve, the cut-off value of Ly/Mo ratio measured before transplantation was 2.675, and the cut-off value of age was 47 years without a significant difference in PFS. However, when the two variables were combined, a significant difference in PFS was shown between the four patient groups. Patients older than 47 years with a Ly/Mo ratio ≥ 2.675 had significantly worse survival outcomes compared to other patients. However, the difference in PFS did not translate into a significant difference in OS.

The depth of remission achieved with pretransplant treatments did not significantly affect transplant outcome. However, patients who relapsed within 24 months of first-line treatment had significantly worse PFS after transplantation than those who relapsed beyond 24 months. The difference did not translate into an OS advantage here either.

5. Discussion

Over the past decades, several prognostic models have been developed, which, in addition to classical clinical and easily accessible laboratory and imaging parameters, have attempted to provide a more accurate prediction of the course of the disease by examining biological, molecular genetic and other factors demonstrating the heterogeneity of FL.

The Ly/Mo ratio is a simple, peripheral blood-based, yet informative biomarker, the prognostic significance of which is increasingly being investigated in several hematological tumors, including FL. From an immunological perspective, the Ly/Mo ratio reflects the balance between the antitumor immune response and the inflammatory environment supporting tumor growth. A reduced lymphocyte count may indicate a reduced function of adaptive immunity and a narrowing of the T-cell repertoire, while an increased monocyte count may indicate an increased activity of cells present in the tumor microenvironment that maintain inflammation and immunosuppression, e.g. tumor-associated macrophages (TAMs). In particular, M2-polarized TAMs are known to promote tumor growth, angiogenesis, and immune evasion, including in FL. Thus, the Ly/Mo ratio can be interpreted as a combined indicator of the patient's immune status and microenvironmental activity. In the present study, the Ly/Mo ratio emerged as an independent prognostic factor for PFS in both the newly diagnosed FL population and patients undergoing ASCT. A ratio <3.41 at diagnosis was associated with a

significantly shorter PFS in patients receiving standard therapy, while a Ly/Mo ratio ≥ 2.675 before transplantation was a predictor of a worse outcome in the ASCT group. The seemingly contradictory results may be explained by the dynamic changes in the TME during and after treatment. If the number of TAMs decreases, their tumor growth-supporting effect is less effective, so a more favorable outcome can be expected. On the other hand, the absolute lymphocyte count value does not separate B and T cells, the ratio of which can also change favorably in the direction of antitumor activity as a result of treatment. The examination of the prognostic role of individual lymphocyte subtypes may be the subject of further studies. It should be noted that in our studies, the Ly/Mo ratio measured before transplantation did not prove to be a significant prognostic marker by itself, but only when evaluated together with the age of the patients.

PET/CT has now become the cornerstone of the staging and therapeutic response assessment of FDG-avid lymphomas, including FL. In addition to its diagnostic and tumor burden-determining role, there is increasing evidence that metabolic parameters derived from PET/CT – especially the SUVmax value – also have prognostic significance. In the present study, we identified three different cut-off values that were significantly associated with PFS. Interim PET/CT after three cycles of immunochemotherapy also showed a stronger predictive value than staging, confirming that early metabolic response reflects therapy

sensitivity. The use of SUVmax as a quantitative measure may facilitate reproducibility and standardization in clinical practice.

Restaging PET/CT after completion of induction therapy also had predictive value for PFS. These results support the fact that PET/CT is not only a diagnostic and staging tool, but also a dynamic prognostic tool in FL.

The combined assessment of Ly/Mo ratio and metabolic activity measured by PET/CT further increased the accuracy of risk estimation. The combination of elevated staging and interim SUVmax, as well as low Ly/Mo ratio, identified a subgroup with a particularly poor prognosis, with a significantly worse 5-year PFS. Accordingly, the combination of peripheral blood biomarkers and functional imaging may facilitate early risk stratification and targeted treatment decisions. Due to its ease of measurement, low cost, and significant predictive value, the Ly/Mo ratio may potentially be integrated into newly developed clinical prognostic models in the future, either alone or in combination with imaging and molecular features.

POD24 is one of the most significant predictors of adverse outcome in patients with FL. The major disadvantage of identifying POD24 is that its definition is based on treatment outcome, so it can be assessed retrospectively and is not suitable for risk assessment before starting therapy. Considering the outstanding prognostic significance of POD24 status, it was a logical conclusion that the risk of developing POD24, rather than PFS or OS, should be examined as the endpoint of prognostic

models applied at diagnosis. In predicting POD24, PRIMA-PI showed the highest accuracy (57%), FLIPI had the highest positive predictive value (64%), while m7-FLIPI had the highest.

6. New findings

1. We were the first to demonstrate the prognostic value of the lymphocyte/monocyte ratio (Ly/Mo) in a Hungarian patient group among newly diagnosed follicular lymphoma patients. The Ly/Mo ratio proved to be an independent predictor of PFS.
2. Using a combined risk model, we demonstrated that the combined evaluation of the Ly/Mo ratio and staging PET/CT SUVmax can more accurately identify high-risk patients with significantly shorter PFS.
3. The SUVmax value measured on interim PET/CT after cycle 3 significantly differentiated newly diagnosed FL patients regarding PFS in our retrospective, real-world cohort, which can be further refined by considering the SUVmax value of staging PET/CT.
4. We found that the presence of a pre-ASCT Ly/Mo ratio ≥ 2.675 and age over 47 years is associated with a significant deterioration in PFS. This association may help to refine patient selection for transplantation.
5. POD24 status following the first treatment also appeared as a demonstrably unfavorable prognostic factor in the transplanted patient group, which was associated with a significant decrease in PFS.

7. Summary

Follicular lymphoma (FL) is the most common type of indolent non-Hodgkin lymphoma, which is characterized by a generally favorable prognosis, but a heterogeneous disease course. A significant proportion of patients progress within 24 months (POD24) after first-line treatment, which is associated with significantly worse long-term survival. All this highlights the importance of identifying reliable, clinically applicable prognostic factors.

The aim of this doctoral dissertation was to determine the biological, clinical and imaging parameters that can contribute to the basis of risk-based therapeutic decisions using data from two retrospectively analyzed patient groups – a first-line FL population and a group of patients who underwent ASCT.

Based on the results, the Ly/Mo ratio was an independent prognostic factor for PFS in the newly diagnosed FL patient group and in patients older than 47 years who underwent ASCT. In the non-transplanted group, SUVmax values measured during staging, interim and restaging PET/CT also had a significant prognostic role in terms of PFS. Both Ly/Mo ratio and SUVmax are easily accessible, cost-effective biomarkers that provide valuable prognostic information in FL. Their combined use may contribute to supporting risk-based treatment decisions, including the timing of ASCT.



Registry number:

DEENK/205/2025.PL

Subject:

PhD Publication List

Candidate: Anna Kenyeres

Doctoral School: Doctoral School of Clinical Medicine

List of publications related to the dissertation

1. **Kenyeres, A.**, Kiss, E., Simon, Z., Illés, Á., Jóna, Á.: Age and lymphocyte/monocyte ratio as prognostic factors for autologous transplantation in the treatment of patients with follicular lymphoma.
J. Int. Med. Res. 52 (2), 1-10, 2024.
DOI: <http://dx.doi.org/10.1177/03000605231221012>
IF: 1.4 (2023)
2. Jóna, Á., **Kenyeres, A.**, Barna, S., Illés, Á., Simon, Z.: Clinical and biological prognostic factors in follicular lymphoma patients.
PLoS One. 17 (8), 1-14, 2022.
DOI: <http://dx.doi.org/10.1371/journal.pone.0272787>
IF: 3.7

List of other publications

3. Kiss, E., **Kenyeres, A.**, Illés, Á., Simon, Z., Jóna, Á.: Klinikai és biológiai prognosztikai tényezők vizsgálata follikuláris lymphomás betegek kezelése során.
Hematol. Transzfuziol. 56 (2), 66-75, 2023.
DOI: <http://dx.doi.org/10.1556/2068.2023.00174>
4. Szabó, I. L., **Kenyeres, A.**, Szegedi, A., Szöllősi, A. G.: Heme Oxygenase and the Skin in Health and Disease.
Curr. Pharm. Design. 24 (20), 2303-2310, 2018.
DOI: <http://dx.doi.org/10.2174/1381612824666180717155953>
IF: 2.412





5. Szabó, I. L., Ócsai, H., Kiss, B. K., Kékedi, K., Kósa, P., Várvölgyi, T., Kun, E., **Kenyeres, A.**, Szöllősi, A. G., Remenyik, É., Emri, G.: BRAF-mutáció pozitív áttétes melanoma célzott gyógyszeres kezelése.
Bőrgyógyász. Venerol. Szle. 93 (4), 160-167, 2017.
DOI: <http://dx.doi.org/10.7188/bvsz.2017.93.4.4>

Total IF of journals (all publications): 7,512

Total IF of journals (publications related to the dissertation): 5,1

The Candidate's publication data submitted to the Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

13 May, 2025

