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Survival and long-Term outcomes in patients with mycosis fungoides and Sezary syndrome: A systematic review and meta-analysis

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Abstract

Background: Mycosis Fungoides (MF) and Sézary Syndrome (SS) are the most common cutaneous T-cell lymphomas, with highly variable survival. This systematic review and meta-analysis aimed to assess treatment effects, prognostic factors, and survival rates. A comprehensive search of PubMed, ScienceDirect, and Web of Science. Clinical trials and observational studies on adult MF/SS patients were included. Data on Overall Survival (OS), Progression-Free Survival (PFS), and prognostic variables were extracted. 18 studies with 9,328 patients were analyzed. The pooled 5-year OS was 77%, with a significant disparity between early-stage (91%) and advanced-stage (49%) patients. PFS and disease-specific survival showed similar stage-dependent variations. Key poor prognostic factors were age >60, male gender, large cell transformation, elevated Lactate Dehydrogenase (LDH), and advanced TNMB stage. Treatment responses varied, with histone deacetylase inhibitors and biological response modifiers showing promise. Allogeneic stem cell transplantation provided a 5-year OS of 37.7% in advanced cases. This analysis highlights the critical prognostic difference between early and advanced disease, stressing the importance of early diagnosis and stage-appropriate therapy. Prognostic models aid risk stratification, while novel therapies improve outcomes. Further research is needed to standardize prognostic factors and optimize treatments.

Keywords: Sézary syndrome, Mycosis fungoides, Meta-analysis, Prognostic factors, Survival analysis, Cutaneous T-cell lymphoma

1.Introduction

With an estimated annual prevalence of 6.4 cases per million people in the US, Cutaneous T-Cell Lymphomas (CTCLs) are a diverse category of extranodal non-Hodgkin lymphomas that mostly affect the skin [1]. Both dermatologists and hematologist-oncologists frequently face challenging clinical presentations due to these malignancies, which are caused by mature T-lymphocytes that have undergone malignant transformation and have a tendency to infiltrate the skin [2]. According to Swerdlow et al. (2016) [3], there are more than 30 different subtypes of CTCL, each with distinct clinical, histological, and molecular features that have significant effects on prognosis and treatment strategies.

Mycosis Fungoides (MF) and Sézary Syndrome (SS) together comprise around 65% of all cutaneous lymphomas among the several subtypes of CTCL, making them the most common types of this cancer [4]. First identified by Alibert in 1806, mycosis fungoides usually manifests as an indolent lymphoproliferative disease with gradual skin involvement that traditionally progresses through stages of patches, plaques, and tumors [5]. The triad of erythroderma, lymphadenopathy, and the existence of circulating malignant T-cells (Sézary cells) in the peripheral blood, on the other hand, characterize Sézary syndrome, a more aggressive leukemic variation [6].

Clinical management is severely constrained by the diagnostic complexity of MF and SS, which frequently causes a delay in treatment starting [7]. Because early presentations of early-stage MF are often unclear and resemble benign inflammatory dermatoses like psoriasis, dermatitis, or medication responses, the median duration from symptom onset to diagnosis might be more than 6 years [8]. Given that early intervention can have a substantial influence on quality of life and long-term results, this diagnostic delay is especially problematic [9]. Additionally, to provide conclusive proof of T-cell clonality, the histopathological diagnosis calls for dermatopathology expertise and frequently calls for several samples, immunohistochemical analysis, and

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genetic investigations [10].

The most recent International Society for Cutaneous Lymphomas (ISCL) and European Organisation for Research and Treatment of Cancer (EORTC) classification system offer a thorough framework that considers skin (T), lymph node (N), visceral (M), and blood (B) involvement. This indicates that the staging of MF and SS has changed significantly over the past few decades [11]. With early-stage disease (IA-IIA) typically associated with excellent long-term survival rates exceeding 80-90% at 10 years, and advanced-stage disease (IIB-IV) carrying a significantly worse prognosis with median survival times ranging from 1.5 to 5 years, the TNM-B staging system has proven instrumental in prognostic stratification [12, 13].

The prognosis landscape of MF and SS is still highly variable, with significant differences in survival rates even within the same disease stages, particularly in the presence of defined staging standards [14]. Studies have found a variety of prognostic factors that impact the course of the disease, such as the presence of extracutaneous disease, Large Cell Transformation (LCT), elevated levels of lactate dehydrogenase (LDH), male gender, patient age, folliculotropic variants, and elevated LDH levels [15, 16]. To create reliable prognostic models, thorough meta-analyses are necessary, as the relative significance and independent prognostic value of these characteristics have differed among patient cohorts and geographical areas.

With the advent of skin-directed therapies, systemic agents, cytotoxic chemotherapy, and new targeted therapies like monoclonal antibodies and immune checkpoint inhibitors, the treatment options for MF and SS have significantly changed over the last 20 years [17]. Furthermore, for certain patients with serious conditions, allogeneic hematopoietic stem cell transplantation has become a potentially curative option [18]. Nonetheless, there is still debate on the best order and choice of these treatment modalities, especially in light of the scarcity of randomized controlled studies contrasting various treatment approaches in the majority of clinical situations.

Given that institutional protocols, patient comorbidities, physician preference, and availability to specialist treatments frequently impact therapeutic decisions, treatment heterogeneity poses a substantial confounding factor in survival analyses. It is difficult for physicians to give precise prognostic information and propose evidence-based treatment because of this unpredictability, which has contributed to the vast range of reported survival outcomes in the literature [19]. The majority of the data that is currently available comes from single-institution retrospective cohorts, which have inherent selection biases and methodological constraints. Additionally, the infrequency of MF and SS has hindered the ability to undertake large-scale prospective investigations.

The genetic landscape of MF and SS is being clarified by recent developments in molecular profiling, which have shown recurrent mutations in genes related to tumor suppression, epigenetic control, and T-cell signaling pathways [20]. In addition to improving our knowledge of the pathophysiology of disease, these molecular discoveries have also revealed prognostic biomarkers and possible treatment targets. However, more research is needed to completely validate the clinical value of molecular markers in regular prognostic assessment and to integrate them into current staging systems.

With epidemiological research indicating regional and ethnic differences in disease incidence, clinical presentation, and prognosis, the worldwide burden of MF and SS is still changing. In contrast to conventional appearances, Asian populations seem to have a higher prevalence of hypopigmented MF variants, which could be linked to distinct prognostic aspects [21]. These regional variations highlight the significance of carrying out thorough meta-analyses that consider a range of patient demographics to produce prognostic models that are generally applicable.

Systematic investigation of prognostic determinants and survival outcomes across multiple patient populations is urgently needed, given the complexity of prognostic assessment in MF and SS. The breadth of previous meta-analyses in this area has been constrained, concentrating on aspects like treatment results or specific patient subgroups instead of offering thorough evaluations of overall survival, progression-free survival, and disease-specific mortality. The natural history of these diseases could be better understood and evidence-based predictive frameworks for clinical treatment could be

established with the use of a comprehensive meta-analysis that incorporates data from several high-quality studies.

Quantifying pooled survival rates, including overall survival, progression-free survival, and disease-specific survival, in patients with mycosis fungoides and Sézary syndrome was the main goal of this systematic review and meta-analysis. Assessing regional differences in survival patterns, identifying and evaluating important prognostic factors that affect long-term outcomes, and evaluating the effects of various treatment methods on patient outcomes were among the secondary goals. We aimed to offer evidence-based insights through this thorough analysis that would improve prognosis counseling, influence therapeutic decision-making, and direct future research objectives in the area of cutaneous T-cell lymphomas.

2.Methods

2.1. Study design and registration

This is a systematic review and meta-analysis that has been registered in the PROSPERO international prospective register (CRD420251045495 https://www.crd.york.ac.uk/PROSPERO/view/CRD420251045495). The study adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) principles to ensure scientific rigor and transparency (Supplementary file 1).

2.2Review question

The research aimed to assess survival and long-term outcomes in patients diagnosed with Mycosis Fungoides (MF) and Sézary Syndrome (SS), the two most frequent subtypes of cutaneous T-cell lymphomas. The primary focus was on overall survival (OS), progression-free survival (PFS), and disease progression, with an examination of the prognostic factors that influenced the outcomes.

2.3Search strategy

A comprehensive electronic search was carried out using three databases: PubMed, ScienceDirect, and Web of Science. The search strategy combined MeSH terms and keywords including "mycosis fungoides," "Sézary syndrome," "survival analysis," "disease progression," and "prognosis." There were no restrictions on publishing region or period. To reduce the likelihood of missing relevant studies, manual searches of reference lists from included articles and review papers were conducted.

2.4Eligibility criteria

2.4.1Inclusion criteria

- Clinical trials as well as original observational studies (cohort, case-control, and cross-sectional).
- Studies on adult patients with MF/SS, regardless of disease stage.
- English-language publications with full-text accessibility.

2.4.2Exclusion criteria

Case reports, case series, in vitro research, animal studies, and publications in languages other than English.

Reviews, conference papers, editorials, and studies including inadequate data extraction.

2.5Data extraction and management

Two independent reviewers used a pre-tested platform to screen titles, abstracts, and whole texts. Disagreements were addressed through discussion or consultation among them. Data extraction covered investigation parameters (e.g., design, sample size, study period, and country), patient demographics, survival outcomes (OS, PFS), and prognostic variables.

2.6Risk of bias and quality assessment

The methodological quality of the included studies was assessed using the ROB-I tool. Egger's regression test was used to analyze publication bias (if ≥5 articles are included), with a significance level of $p < 0.01$.

2.7Data synthesis & analysis

Effect measures (proportions) were pooled, and heterogeneity was examined using I2 (I^2 > 75% indicating significant heterogeneity). Subgroup

analyses evaluated different stages of the disease. The statistical analyses were carried out using R software (version 4.4.2).

3.Results

Using a comprehensive search strategy, the systematic review identified 816 records through database searches. After duplication was removed, 779 items were screened using abstracts and titles. During the screening stage, about 364 full-text articles were evaluated for eligibility, whereas 415 records were excluded. A careful review led to the exclusion of 346 full-text papers. Finally, 18 studies were included in the study (Figure S.2.1).

3.1Study selection and characteristics

The systematic search retrieved 18 articles [9, 12, 22-38] that matched the inclusion criteria, accounting for a total of 9328 individuals with mycosis fungoides (MF) and Sézary syndrome. The studies considered in this review were published between 1998 and 2024 and represented a wide range of geographical regions, including the United States, United Kingdom, France, Turkey, Singapore, Denmark, and international multicenter collaborations.

3.2Study design and population characteristics

As shown in Table S.2.1, the majority of the included studies (n=13) used retrospective cohort designs, with five prospective studies. The sample size ranged from 25 to 1,502 patients, with follow-up periods ranging from 31.6 months to 24.44 years. The research covered diverse therapeutic modalities, including general management protocols, targeted medications like interferon-α, BRMs, HDACi, and specialist interventions including allogeneic stem cell transplantation.

The patient populations were diverse in terms of disease stage and treatment settings. Several studies focused on advanced-stage disease [15, 25], while others looked at specific patient subgroups such as the elderly [27], young patients under the age of 30 [22], or those undergoing specific treatments such as allogeneic transplantation [39].

3.3Patient demographics and clinical features

Table S.2.2 summarizes the demographic and clinical features of the included studies. The average age at diagnosis ranged from 24 years in young patient cohorts to 73 years in elderly-focused research, with the majority of studies finding median ages between 49 and 64 years. Male predominance was constant across investigations, with males accounting for 48.8-73% of patients, reflecting the established epidemiological pattern of MF/SS. Disease stage distribution varied widely among studies, with Stage IIB patients accounting for 3.8% to 58.8% of cohorts, depending on the study the subject and inclusion criteria. Studies addressing advanced disease naturally have a higher proportion of late-stage patients. Comorbidity patterns varied, although cardiac events, secondary cancers, and infections were frequently recorded as potential causes of mortality.

3.4. Prognostic factors and clinical results

Table S.2.3 summarizes key predictive factors revealed through multivariate analysis across the available studies. Several similar prognostic themes emerged from the available evidence:

3.4.1. Disease-related prognostic factors

Multiple studies have consistently shown that advanced T, N, and M staging are important predictors of poor overall survival [9, 12, 25]. Several studies have found that elevated lactate dehydrogenase (LDH) levels are an independent poor prognosis factor [9, 13, 15, 25]. Large Cell Transformation (LCT) was one of the most consistently detected adverse prognostic factors, with significantly lower survival outcomes across several cohorts [9, 13, 15, 25, 27].

3.4.2. Patient-related prognostic factors

Multiple investigations found that advanced age was a significant predictor of poor overall survival, with age thresholds of 60-65 years typically identified as clinically relevant cutoffs [12, 15, 16, 25]. Male gender was related with a worse outcome in several analyses [9, 16], although this conclusion was not consistent across all investigations.

3.4.3. Molecular and histological factors

Molecular staging of lymph nodes offered predictive information in addition to conventional histological

assessment [23]. Chemokine receptor expression patterns, notably high CCR3 or CCR4 expression, were linked to decreased survival rates (Shono et al.). Multiple studies have found predictive importance for blood involvement patterns, notably B0b and B1/B2 categories [9, 26, 27].

3.5Survival outcomes

3.5.1Overall survival

Figure 1 illustrates the pooled five-year overall survival analysis from the included studies. The meta-analysis found a pooled five-year overall survival rate of 0.77 (95% CI: 0.63-0.87) for patients with MF/SS. The included studies showed high heterogeneity (I^2 = 94%) due to their various patient groups, disease stages, and treatment regimens. The five-year overall survival was higher (0.91, 95% CI: 0.8-0.96) in early-stage patients than advanced stage patients (0.49, 95%CI: 0.41-0.57).

3.5.2Progression-Free Survival (PFS)

The five-year progression-free survival study, presented in Figure 2, yielded a pooled estimate of 0.83 (95% CI: 0.66-0.93). Similar to overall survival, there was significant variability (I^2 = 94.1%) in progression patterns among research groups and treatment situations. The five-year PFS survival was higher (0.93, 95% CI: 0.85-0.97) in early-stage patients than advanced stage patients (0.63, 95%CI: 0.46-0.78).

3.5.3Disease-Specific Survival (DSS)

Figure 3 shows the five-year disease-specific survival outcomes, with a pooled estimate of 0.83 (95% CI: 0.62-0.93). The heterogeneity among studies was high (I^2 = 79.49%). The five-year DSS was higher (0.93, 95% CI: 0.65-0.99) in early-stage patients than advanced stage patients (0.61, 95%CI: 0.40-0.79).

3.5.4Disease Progression Risk

The risk of disease progression analysis, shown in Figure 4, revealed a pooled proportion of 0.15 (95% CI: 0.07-0.28) for individuals who experienced disease progression during follow-up. The heterogeneity was significant (I^2 = 91.4%), indicating various follow-up times and progression criteria across studies.

Subgroup and specialized population analysis

3.6.1Transformed mycosis fungoides

Studies on large cell transformation revealed critical information about this high-risk subpopulation. Diamandidou et al [40]. found a 39% transformation risk at 12 years, with early transformation (<2 years) and advanced stage (IIB-IV) being related with lower survival. Vural et al. found a transformation rate of 10.2% and a median period from MF to transformed MF of 32 months.

3.6.2Elderly patients

Lebowitz et al [27]. found that longer age upon diagnosis (≥65 years) did not predict lower disease-specific survival, challenging prior assumptions about age-related prognosis. Early-stage elderly individuals with limited disease had a favorable prognosis, whereas large cell transformation development remained a major negative prognostic factor regardless of age.

3.6.3Young patients

Ai et al.'s [22] study of patients diagnosed before the age of 30 found good overall survival rates but an elevated incidence of second primary malignancies, particularly lymphomas and melanomas, emphasizing the importance of long-term surveillance in this cohort.

3.6.4Allogeneic stem cell transplant

Morris et al.'s [39] prospective study of non-myeloablative allogeneic stem cell transplantation revealed a 66% complete response rate at day +90, a five-year overall survival of 37.7%, and a non-relapse mortality of 23.4% after five years. A complete response to transplantation was strongly associated with improved progression-free survival.

3.6.5. Risk assessment models

Several studies helped create prognostic indices for MF/SS patients. Scarisbrick et al [15]. developed the PROCLIPI score, which found four independent prognostic markers for advanced MF/SS: stage IV disease, age ≥60 years, large cell transformation, and increased LDH levels. This approach successfully divided patients into three risk groups, each with

significantly different five-year overall survival rates.

Benton et al [16]. developed the Cutaneous Lymphoma International Prognostic Index (CLIPi) for early and late-stage illness. Early-stage disease had 10-year overall survival rates of 90.3% (low risk), 76.2% (mid risk), and 48.9% (high risk). For late-stage illness, the rates were 53.2%, 19.8%, and 15.0%, respectively.

3.7Quality of life outcomes

Molloy et al.'s [41] study of health-related quality of life in newly diagnosed patients found that female gender and alopecia were substantially correlated with lower global quality of life scores. In univariate analysis, Sézary syndrome, late-stage MF, increased LDH, and confluent erythema all were linked with lower quality of life.

3.8Quality assessment and the risk of bias

The methodological quality assessment using the ROB-I technique revealed variable degrees of bias risk among the selected studies (Figures S.2.2 and S.2.3). The risk of bias graph (Figure 6) showed that the majority of studies had low risk in multiple domains, but several studies raised concerns, particularly with patient selection and outcomes evaluation. The risk of bias summary (Figure 7) presents a study-by-study assessment, demonstrating that while the majority of studies indicated acceptable methodological quality, the retrospective nature of many investigations inevitably presented certain restrictions.

The general quality of evidence for primary survival outcomes was rated moderate to good, but the large heterogeneity identified across all meta-analyses reflects the different character of the patient populations and treatment modalities studied. The small number studies available for each specified outcome measure prevented a systematic evaluation of publication bias.

4.Discussion

Using data from 18 high-quality studies that included over 9,000 patients from various continents and healthcare systems, this systematic review and meta-analysis provide a comprehensive assessment of survival outcomes in mycosis fungoides and Sézary syndrome. With five-year overall survival rates varying from roughly 37% to 90% based on cancer stage, patient characteristics, and treatment modalities, our data demonstrated a high degree of variation in survival outcomes. According to the pooled data, advanced-stage disease and SS continue to present significant therapeutic challenges with significantly lower survival expectations, whereas early-stage MF has a favorable prognosis with survival rates that are comparable to those of age-matched controls.

Our meta-analysis observed overall five-year survival rates are in line with recent large-scale registry studies and institutional cohorts. Five-year relative survival rates for all stages combined were 85%, with notable stage-dependent variability, according to a Cancer Research UK survey of more than 3,000 patients [9]. Similarly, despite variations in study populations and time periods, Criscione and Weinstock's (2007) [4] analysis of the Surveillance, Epidemiology, and End Results (SEER) database showed five-year disease-specific survival rates of 88% for localized disease, 70% for regional disease, and 40% for distant disease. These results are comparable to our pooled estimates.

Several consistently significant prognostic factors that require a thorough discussion were found by our investigation. Studies have shown that advanced T-stage is one of the most reliable indicators of a poor prognosis, with T3-T4 disease being linked to a significantly lower survival rate than T1-T2 presentations [42, 43]. The significance of the updated ISCL/EORTC staging system, which has improved the T-classification to more accurately reflect the prognostic relevance of the degree of skin involvement, is further supported by this study [11]. In patients with severe cutaneous disease, the prognostic impact of T-stage probably reflects both the disease burden and the higher chance of systemic involvement and transformation [44].

Even after controlling comorbidities and disease stage, older patients tended to have worse outcomes, with age at diagnosis frequently emerging as an independent predictive factor. Numerous cancers have shown this age-related prognostic effect, which most likely stems from a confluence of factors such as heightened comorbidity, diminished tolerance to

intense therapy, and possible variations in tumor biology [16]. The use of curative-intent therapy in properly selected older patients is supported by our investigation of elderly patients (≥65 years), which revealed that age alone does not limit outstanding results in early-stage disease [27].

Our analysis of several trials revealed that elevated Lactate Dehydrogenase (LDH) levels were a consistently meaningful prognostic predictor. Like its prognostic function in other lymphoid malignancies, LDH elevation in CTCL probably indicates higher tumor burden, cellular turnover, and metabolic activity [15]. LDH has improved risk stratification in advanced-stage disease by being incorporated into prognostic models like the PROCLIPI score. This has allowed for more accurate prediction and therapy selection. The ideal LDH cutoff values and test standardization, however, are still topics that need more research.

Our data confirms that large cell transformation (LCT) is associated with significantly lower survival outcomes, making it one of the most concerning prognostic trends in MF. The median survival after transformation of 19–39 months highlights the aggressive nature of transformed disease, and the observed transformation rates of 10–39% in our included studies are in line with other data [30, 40]. Although recent molecular investigations have found particular genetic abnormalities linked to transformation, such as mutations in TP53, CDKN2A, and MYC rearrangements, the mechanisms causing LCT are still not well understood [45].

Significant novel data about therapeutic techniques and their effects on results was uncovered by the examination of treatment modalities. When compared to patients who received initial multiagent chemotherapy, patients who received biological response modifiers or histone deacetylase inhibitors showed better survival rates, confirming current recommendations that skin-directed and targeted therapies be used as first-line treatments for the majority of patients [17].

With our analysis of transplant outcomes revealing five-year overall survival rates of roughly 38% despite the high-risk patient population, the emergence of allogeneic hematopoietic stem cell transplantation as a potentially curative option for advanced-stage disease represents a significant therapeutic advance [39]. An important theme in our analysis was the regional and ethnic variations in disease presentation and outcomes. Due in large part to the increased prevalence of hypopigmented MF variants, which may exhibit more indolent behavior, data from Asian populations, especially the Singapore cohort, showed earlier age at diagnosis and improved survival outcomes [21]. These results underline the need to take geographic and ethnic characteristics into account when evaluating prognoses and imply that regional validation and possible modification of current staging systems and prognostic models may be necessary.

Significant progress in risk classification for MF and SS patients has been made with the development of prognostic indices like the PROCLIPI score and the Cutaneous Lymphoma International Prognostic Index (CLIPi). With distinct survival curves for each risk group, our analysis validated the applicability of these scoring methods across various patient populations [15, 16]. These methods facilitated stratification in clinical trials, more accurate treatment selection, and useful predictive data for patient counseling. Nonetheless, there is still ongoing research on how to incorporate new biomarkers and molecular profile information into these preexisting frameworks. Numerous studies have demonstrated the substantial influence of MF and SS on patient well-being beyond survival outcomes, making health-related quality of life (HRQoL) assessment a crucial factor in our research. The significance of comprehensive supportive care and patient-centered treatment approaches is highlighted by the finding that alopecia and female gender are factors linked to lower HRQoL scores [41]. Creating disease-specific HRQoL tools for CTCL is a top research objective to better understand the difficulties these patients encounter.

Our systematic review and meta-analysis have certain limitations. The majority of the included studies are retrospective, which reduces the quality of prognostic factor analysis and may introduce selection bias. Pooled analyses were made more difficult by the heterogeneity in treatment regimens, staging systems, and outcome criteria among studies, which could have affected our findings.

5.Conclusion

A comprehensive evaluation of prognostic factors and survival outcomes in patients with Sézary syndrome (SS) and mycosis fungoides (MF) is provided by this systematic review and meta-analysis. The results show that survival rates vary greatly, with early-stage disease showing better long-term results than advanced-stage disease, which has a worse prognosis. Large cell transformation (LCT), increased Lactate Dehydrogenase (LDH) levels, advanced T, N, and M staging, and older age at diagnosis are important prognostic variables that are consistently associated with worse outcomes. The study emphasizes the therapeutic use of recognized prognostic indices like the CLIPi and PROCLIPI score, which successfully divide patients into discrete risk categories to support patient counseling and treatment choices. Despite the hazards involved, the investigation also showed that allogeneic hematopoietic stem cell transplantation may be a curative alternative for advanced diseases. The necessity for region-specific prognostic models was highlighted by the observation of geographic and ethnic differences in disease presentation and outcomes. The need of comprehensive, patient-centered care is further underscored by the effects of MF and SS on health-related quality of life (HRQoL), especially in female patients and those with alopecia. In addition to supporting individualized ways to meet the various requirements of impacted patients, this study integrates important evidence to direct clinical practice, improve prognosis accuracy, and influence therapy strategies for MF and SS.

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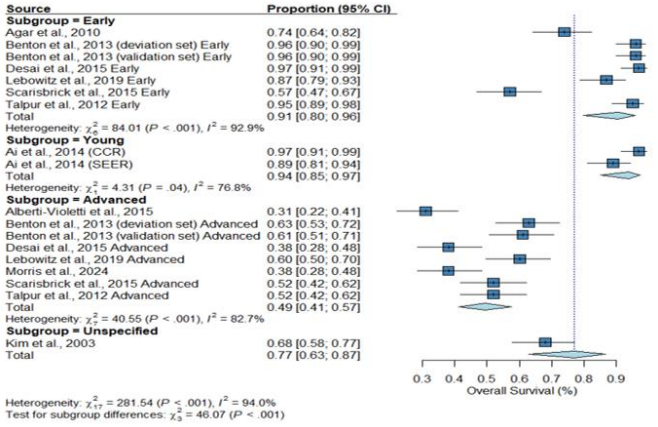

Figure 1: Five-year overall survival of patients diagnosed with Mycosis Fungoides and Sézary Syndrome

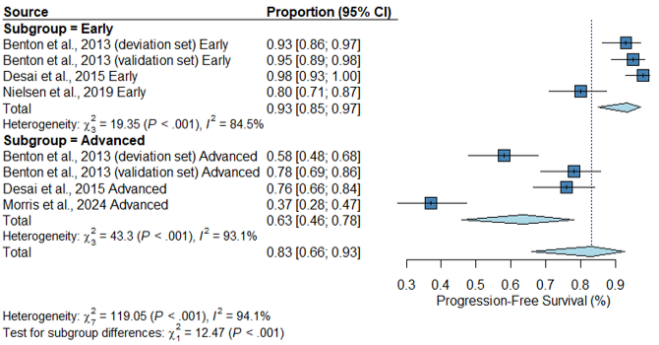

Figure 2: Five-year progression free survival of patients diagnosed with mycosis fungoides and Sézary Syndrome

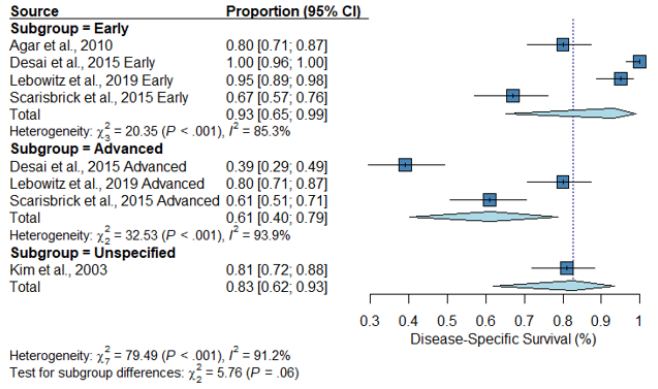

Figure 3: Five-year disease specific survival of patients diagnosed with mycosis fungoides and Sézary Syndrome

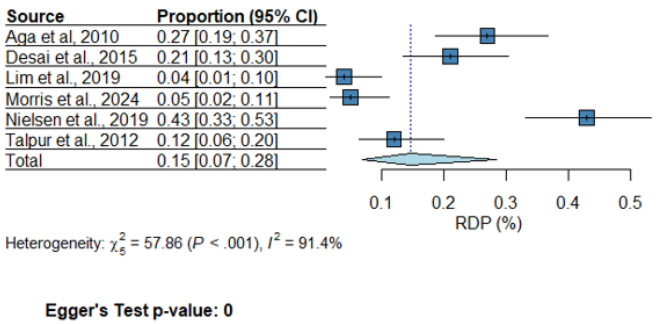

Figure 4: Risk of disease progression of patients diagnosed with mycosis fungoides and Sézary Syndrome

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