# Supplemental Material

Supplementary Table 1. Database and Conference Sources

|  |  |  |  |
| --- | --- | --- | --- |
| **Domain** | **Efficacy/Effectiveness and Safety** | **Humanistic** | **Economic\*** |
| Literature databases¥ | MEDLINE, MEDLINE In-process, Embase, CENTRAL, DARE, CDSR | MEDLINE, MEDLINE In-process, Embase, PsycINFO | MEDLINE, MEDLINE In-process, Embase, EconLit, NHS EED |
| Conferences (meeting abstracts; all topics)^ | Proceedings of the past four editions of the following meetings for all topics:   * ASH: 2016, 2017, 2018, 2019 2020 * BSH: 2016, 2017, 2018, 2019, 2020 * ASCO: 2016, 2017, 2018, 2019, 2020 * EHA: 2016, 2017, 2018, 2019, 2020 * ICML: 2013, 2015, 2017, 2019 * T-cell Lymphoma Forum: 2016, 2017, 2019, 2018 * ISPOR US: 2016, 2017, 2018, 2019, 2020 * ISPOR EU: 2016, 2017, 2018, 2019, 2020 | | |
| Other sources; all topics | Hand-searching of the bibliography list of relevant SLRs/meta-analyses identified by the database searches (published since 2016) | | |
| * EMA and FDA key documents were consulted to identify any additional relevant data not identified in the other searches. * Clinicaltrials.gov | NA | NA |
| **Search Limits** |  | | |
| Temporal; all topics | No date limit | | |
| Geography; all topics | No geographical limits | | |

Abbreviations: ASCO = American Society of Clinical Oncology; ASH = American Society of Hematology; BSH = British Society for Haematology; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; DARE = Database of Abstracts of Reviews of Effects; EHA = European Hematology Association; EMA = European Medicines Agency; EU = European Union; FDA = Food and Drug Administration; ICML = International Conference on Malignant Lymphoma; ISPOR = International Society for Pharmacoeconomics and Outcomes Research; NA = not applicable; NHS EED = National Health Service Economic Evaluation Database; SLR = systematic literature review; US = United States

¥ Embase was searched via Embase.com; MEDLINE and MEDLINE In-process were searched via PubMed; NHS EED was searched via the Centre for Reviews and Dissemination (CRD) website; CENTRAL, DARE and CDSR were searched via the Cochrane Library; PsycINFO and EconLit was searched via ebscohost.com.

\* The Health Economic Evaluations Database, which was retired in March 2015, is no longer publicly available and was not searched.

^ Searches of these conferences were conducted in Embase via embase.com. Proceedings from these conferences are published in supplements of indexed journals. If a publication was not available in Embase, the searches were conducted via the abstract portal for the conference. Manual searches may also be conducted for any 2019 meetings of the listed conferences that have been held by the search cut-off date where their proceedings are available via embase.com. See Appendix B for exact details of locations of the conference proceedings.

Supplementary Table 2. Study Selection Criteria

|  |  |
| --- | --- |
| **Domain** | **Inclusion Criteria** |
| Population | Treatment-naïve adult (≥18 years) patients with PTCL (focus on the following subtypes: PTCL-NOS, AITL, ALK+ and ALK- ALCL, ATLL, EATL, HSTCL) |
| Interventions/Comparators | Not restricted based on specific intervention/comparator but may include anthracycline-based multiagent chemotherapy regimens. |
| Outcomes | * Efficacy/effectiveness: OS, PFS, remission, response (complete, partial, overall) * Safety: Death, discontinuations/treatment withdrawals (overall, due to lack of efficacy, due to AEs etc.), overall incidence of AEs, overall incidence of SAEs * PROs: HRQoL evaluated with generic instruments (e.g., EQ-5D), or disease-type-specific instruments (e.g., EORTC QLQ-C30, FACT/GOG-NTx), utilities/disutilities (as reported within the studies) * Cost and resource use: Direct costs (administration of treatment, drug, inpatient treatment, monitoring, palliative treatment, physician/nursing visits, treatment of AEs), indirect costs (travel, loss of productivity, absenteeism, presenteeism) * Economic evaluations (ICERs, sources of clinical, cost and HRQoL inputs |
| Study design | * RCTs (phases II and III) * Open-label extension phases of RCTs and non-RCTs * Prospective interventional trials (non-RCTs, including phase I trials) * Prospective and retrospective observational studies (including chart reviews) * Economic evaluations (trial-based and economic models [CBA, CEA, CMA, CUA]) * Systematic reviews/meta-analyses of interventional and observational studies (citation-chasing only) |
| Language | English |

Abbreviations: AE = adverse event; AITL = angioimmunoblastic T-cell lymphoma; ALCL = anaplastic large cell lymphoma; ALK = anaplastic lymphoma kinase; ATLL = adult T-cell acute lymphoblastic lymphoma/leukemia; CBA = cost-benefit analysis; CEA = cost-effectiveness analysis; CMA = cost=minimization analysis; CUA = cost-utility analysis; EATL = enteropathy-associated T-cell lymphoma; EORTC QLQ-C30 = European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire - Core Questionnaire; EQ-5D = EuroQol Five Dimensions; FACT-GOG-Ntx = Functional Assessment of Cancer Therapy/Gynecologic Oncology Group-Neurotoxicity; HRQoL = health-related quality of life; HSTCL = hepatosplenic T-cell lymphoma; ICER = incremental cost-effectiveness ratio; NOS = not otherwise specified; OS = overall survival; PFS = progression-free survival; PRO = patient-reported outcome; PTCL = peripheral T-cell lymphoma; RCT = randomized controlled trial; SAE = serious adverse event

Supplementary Table 3. Characteristics of Included Studies

| **Author, Yearstudies]** | **Study Design/ Blinding** | **Clinical Data Source or Trial Name** | **Study Population** | **Country** | **Number of Patients** | **Median Age** | **Male (%)** | **Follow-up Duration (median, months)** | **Interventions Assessed** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **RCTs** | | | | | | | | | |
| Aviles A, 2008[18] | Phase III/NR | NR | Untreated with unspecific PTCL | Mexico | 227 | 52.9 | 75.5 | 125.4 (range: 98–156) | CMED; CHOP |
| d'Amore F, 2018[21] [\*d'Amore F, 2011[27]] | Phase III/NR | ACT-1; NCT00646854 | Newly diagnosed aged 18–60 years with systemic PTCL | NR | 131 | 51 | NR | 66 | CHOP with alemtuzumab; CHOP |
| \*Bachy E, 2020[12] | Phase III/ NR | NCT01796002 | Previously untreated PTCL | Europe and Asia | 421 | 65 | NR | 36 (planned) | Ro-CHOP or CHOP |
| Gleeson M, 2018[13] [Gleeson, 2017[46]] | Parallel-group (phase II)/OL | CHEMO-T, NCT01719835, EudraCT 2011-004146-18 | Previously untreated PTCL | UK (N=86) and Australia (N=1) | 87 | 62.5 | 71.5 | 27.4 (IQR 16·6–38·4) | GEM-P CHOP; |
| Horwitz S, 2019[8] | Phase III/DB, double-dummy | ECHELON-2, NCT01777152 | Previously untreated CD30-positive with PTCL | Global (17 countries; North America, Europe, Australia, Asia) Canada, Czech | 452 | 58 | 63 | 42.1 (95% CI 40·4–43·8) | A + CHP;  CHOP |
| \*Kim S, 2019[22] | Phase II/ NR | NCT02445404 | Previously untreated peripheral T-cell lymphoma | Korea | 138 | NR | 60.5 | 17.9 | CHOP;  Fractionated ICED |
| Sun, Y 2020[20]  [Li L, 2017[17]] | Phase NR/OL | NCT01664975 | Newly diagnosed PTCL | China | 103 | 50.0 | NR | NR | GDPT;  CHOP |
| Simon A, 2010[7] | Phase III/OL | GOELAMS-LTP95 | Newly diagnosed untreated PTCL | France | 88 | 50.5 | NR | 110 | VIP-rABVD;  CHOP/21 |
| Toyoda K, 2019[19]  [Tsukasaki K, 2007[16]] | Phase III)/NR | JCOG9801 | Previously untreated with aggressive ATLL | Japan | 118 | 57 | 51.7 | 10.9 | VCAP-AMP-VECP;  CHOP |
| **Non-RCTs: Prospective Trials** | | | | | | | | | |
| Corradini P, 2014[30] | Phase II | EudraCT Number 2006-004234-33 | Newly diagnosed with PTCL | Italy | 86 | 53.8 | 57.9 | 44 | CHOP with alemtuzumab plus HyperCHidam;  CHOP with alemtuzumab |
| Gallamini A, 2007[23] | Interventional (phase II)/OL | GITIL | PTCL | Italy | 24 | 52 | NR | 16.3 | CHOP-C |
| Kim J, 2006[24] | Interventional/ NA | NR | Newly diagnosed PTCL | South Korea | 26 | 57.5 | 50 | 12.6 | CHOP + etoposide + gemcitabine |
| Kim S, 2016[26] | Phase II/OL | NCT01198665 | Newly diagnosed, chemotherapy naïve PTCLs | Korea | 30 | 54 | 50 | 35.4 | Everolimus + CHOP |
| Kluin-Nelemans H, 2011[31] | Phase II | HOVON 69; ISRCTN5226529 | Newly diagnosed T-cell lymphoma | Netherlands | 20 | 50 | NR | 29 (range 19–41) | CHOP with alemtuzumab |
| Maeda Y, 2017[28] [Maeda, 2016] | Phase II/NA | UMIN000000829; West-JHOG PTCL0707 | Untreated PTCL | Japan | 41 | 64 | 51.2 | NR | EPOCH |
| Rattarittamrong E, 2013[29] | Interventional/ NA | NR | Newly diagnosed nodal PTCL at the Maharaj Nakorn Chiang Mai Hospital | Thailand | 35 | 48.7 | 71.5 | 21 | CHOEP-21  CHOP-21 |
| \*Cho H, 2019[65]  [\*Shin D, 2017[64]] | Registry study | NCT02364466 | PTCL according to WHO 2008 | South Korea | 148 | 59 | 60.8 | NR | CHOP or ICE |
| \*Shi, Y, 2019[32] | Open-label, multicenter | NCT02809573 | Patients with previously untreated PTCL | China | 30 | 52.5 | 63.3 | NR | CHOP with chidamide |
| **Non-RCTs: Single-arm Trials** | | | | | | | | | |
| d’Amore F, 2012[27] | NA | NLG-T-01 | Treatment-naïve with PTCL aged 18–67 years | Denmark, Finland, Norway, and Sweden | 160 | 57 | 67 | 60.5 (range, 26.4–96.3) | CHOEP-14 /CHOP-14 |
| Kim J, 2007[50] | NA | NR | Newly diagnosed PTCLs | South Korea | 20 | 50.5 | 70 | 7.2 (range, 1.2–12.1) | CHOP with alemtuzumab |
| Kim S, 2012[25] | Phase II/NA | NCT00374699 | Stage III/IV PTCL | Korea | 46 | 51 | 54.3 | 41.3 | Bortezomib + CHOP |
| \*Zhang W, 2019[33] | Phase Ib/II | NCT02987244 | Patients with previously untreated PTCL | China | 67 | NR | NR | NR | Chi-CHOEP |
| **Non-RCTs: Retrospective Observational Trials** | | | | | | | | | |
| Abramson J, 2014[61] | NA | NR | Newly diagnosed PTCL | US | 341 | 62 | 59 | 39 (range 6-109) | CHOP-like;  HyperCVAD/MA;  Other regimen (EPOCH, CMED, gemcitabine-based, ifosfamide-based, and others);  Palliative care only |
| Akagi T, 2011[69] | NA | NR | PCTL (PTCL-U & AITL) | Japan | 46 | 64.9 | 48 | 11.5 | CHOP with or without rituximab |
| Broussais-Guillaumot F, 2013[66] | NA | NR | Previously untreated PTCL | France | 208 | 55 | 60 | 60 | CHOP |
| Cederleuf H, 2017[47] | NA | A Nordic Lymphoma Group study | Adults (≥18 years) diagnosed with ALK+ ALCL | Denmark and Sweden | 94 | 44.7 | NR | 86 | CHOP CHOEP |
| Ellin F, 2014[62] | NA | NR | T-cell lymphomas | Sweden | 252 | 59.5 | 68.7 | 94.8 | CHOP  CHOEP |
| \*Falcone U, 2016[41] | NA | NR | Consecutive T-NHL | Canada | 124 | 56 | NR | 63.6 | CHOP-like, GDP Campath |
| Feldman T, 2017[40] | NA | NR | Newly diagnosed and R/R ALCL, PTCL-NOS, and AITL | US | 93 | 61 | 63 | 12.2 | CHOP or CHOP-like regimen |
| Fuji S, 2019[15] | NA | NR | Aggressive ATL treated with front-line VCAP-AMP-VECP | Japan | 1460 | 58.4 | 56.1 | 33.1 | VCAPAMP-VECP based;  CHOP based |
| \*Garzon K, 2020[70] | NA | NR | Patients with NK/T-cell lymphoma | Mexico | 173 | 40 | 64.0 | 43.2 | CHOP |
| Gleeson M, 2018[13] | NA | NR | Adults with newly diagnosed PTCL | UK | 156 | 58 | 72 | NR | CHOP |
| Gritti G, 2015[63] | NA | NR | Untreated with systemic PTCL | Italy | 209 | 49.3 | 61 | NR | CHOEP;  MACOP-B;  Intensive regimens; |
| He X, 2012[34] | NA | NR | Newly diagnosed with ALCL | China | 64 | 33 | 59.4 | 51 | Anthracycline-based chemotherapy |
| Hodson A, 2011[48] | NA | NR | Aggressive ATLL (acute ATLL and lymphoma ATLL) | England | 73 | 58 | 40 | 22 | CHOP; CHOP-Z; gemcitabine + carboplatin; high-dose intravenous methotrexate; cytarabine-containing regimens  Antiviral treatment (AVT): ZDV/IFN-a |
| Janikova A, 2019[38] | NA | NR | Patients with newly diagnosed T cell lymphoma | Czech Republic | 181 | NR | 68.1 | 51.6 (range 1.2-213.6) | CHOPE;  CHOP |
| Jia B, 2016[42] | NA | NR | PTCL | China | 88 | NR | NR | 17.14 (range, 1.4-108.3) | CHOPE;  CHOP;  GDP |
| Kim Y, 2017[45] | NA | NA | Adults with newly diagnosed PTCL | South Korea | Single Center:  131 Registry: 1933 | Single Center:  59 Registry: 58 | Single Center:  62.6 Registry:  61.8 | 44 | CHOP or CHOP-like regimen;  CHOP + etoposide or CHOP-like regimen + etoposide |
| Kitahara H, 2017[43] | NA | NA | PTCL and initially treated with CHOP/CHOP-like therapy | Japan | 78 | 66 | 62 | 62 (range, 3-169) | CHOP or CHOP-like regimen |
| Lee Y, 2009[67] | NA | NR | PTCL-U | Korea | 84 | 49 | 54 | NR | CHOP; cisplatin-containing regimens; HDC-ASCT |
| Lin H, 2010[36] | NA | NR | AITL | Taiwan | 31 | 74 | 67.7 | 18 | CHOP/COP |
| Liu X, 2019[49] | NA | NR | Previously untreated PTCL | China | 116 | 57.5 | 71.6 | 35.5 | CHOP  CHOPE  CHOPE/G |
| Malpica L, 2018[35] | NA | NR | ATLL | US | 195 | 52 | 42 | NR | AZT-IFN alone or Multiagent chemotherapy |
| \*Norasetthada L, 2016[39] | NA | Thai Lymphoma Study Group uniform treatment project | Nodal PTCLs excluding ALK-positive ALCL | Thailand | 116 | NR | NR | 26 | EPOCH  CHOP |
| Park B, 2007[71] | NA | NR | AITL | Korea | 65 | 60 | 66.2 | NR | CHOP; EPOCH; high-dose Vanderbilt regimen; high-dose chemo + HDC-ASCT |
| Pautier P, 1999[51] | NA | NR | Angioimmunoblastic-like T-cell NHL | France | 33 | 62 | 48 | NR | CHOP; ACVBP; low-dose CHOP; MOPP/ABV; ProMACE-MOPP; MOPP |
| Reiser M, 2002[72] | NA | NR | Malignant T-cell lymphoma | Germany | 66 | NR | 62 | NR | CHOP; COP; COPBLAM; ACOMED; MACOP-B: COPBLAM + IMVP; DIZE; Interferon; Cortisone |
| Roe C, 2016[14] | NA | NR | ATLL | US | 10 | 56 | 40 | NR | CHOP; interferon/zidovudine; VCAP-AMP-VECP |
| Park S, 2006[73] | NA | NR | ALCL | Korea | 32 | 51 | 81 | NR | CHOP; COP-BLAM-V; CVP; BVP; CAPPE/VBM; IMEP |
| Tsukamoto Y, 2020[52] | NA | NR | Patients with newly diagnosed and previously untreated aggressive ATL | Japan | 103 | NR | 60 | 8.9 | mEPOCH |
| Zell M, 2016[37] | NA | NR | Caribbeans with ATLL | US | 42 | 46 | 38 | NR | IFN + AZT; EPOCH; CHOP; CVP; Hyper CVAD |
| Zhao S, 2012[68] | NA | NR | AITL | China | 31 | 48 | 55 | 67 | COP  CHOP |
| **Non-RCTs: Prospective Pooled Analysis** | | | | | | | | | |
| Nickelsen M, 2009[74] | NA | DSHNHL | Aggressive lymphoma (including T-NHL and B-NHL) | Germany | 33 | 48 | 66.7 | 52.8 | MegaCHOEP |
| Schmitz N, 2010[44] | NA | DSHNHL | Mature nodal or extranodal T-cell or NK-cell lymphoma | Germany | 320 | 50 | 61.6 | 43.8 | CHOP or CHOEP |

\*Conference abstract; all other publications are journal articles.  
Abbreviations: A + CHP = brentuximab vedotin, cyclophosphamide, doxorubicin, vincristine, prednisolone; AITL = angioimmunoblastic T-cell lymphoma; AMP = doxorubicin, ranimustine and prednisone; ATLL = adult T-cell acute lymphoblastic lymphoma/leukemia; CHOEP/CHOPE = CHOP + etoposide; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisolone; CHOP-C = CHOP with alemtuzumab, chlorphenamine, acetaminophen, and alizapride; CHOP-EG = CHOP with etoposide and gemcitabine; CMED = cyclophosphamide, methotrexate, etoposide, dexamethasone; COP = cyclophosphamide, vincristine, prednisone; DB = double-blind; DSHNHL = German High-Grade Non-Hodgkin Lymphoma Study Group; EPOCH = etoposide, prednisone, vincristine, cyclophosphamide and doxorubicin; GDP = gemcitabine, cisplatin and dexamethasone; GDPT = gemcitabine, cisplatin, prednisone and thalidomide; GEM-P = gemcitabine, cisplatin, methylprednisolone; NHL = non-Hodgkin’s lymphoma; NR = not reported; OL = open label; PTCL = peripheral T-cell lymphoma; PTCL-U = peripheral T-cell lymphoma unspecified; RCT = randomized controlled trial; VCAP = vincristine, cyclophosphamide, doxorubicin and prednisone; VECP = vindesine, etoposide, carboplatin and prednisone; VIP-rABVD = etoposide, ifosfamide, cisplatin alternating with doxorubicin, bleomycin, vinblastine, dacarbazine

Supplementary Table 4. Summary of Results for ORR

| **Study** | **Response Definition** | **Treatment Arm/Group (Number of patients evaluated)** | **Timepoint: n (%)** |
| --- | --- | --- | --- |
| **Overall PTCL** | | | |
| **RCTs** | | | |
| Bachy E. 2020[12] | CR + CRu | Ro-CHOP (211) | 27.5 months: 63 (NR) |
| CHOP (210) | 27.5 months: 60 (NR) |
| Gleeson M, 2018[13] | NR | CHOP (43) | 24.7 months: 28(75.7) |
| GEM-P (44) | 24.7 months:25(67.6) |
| Horwitz S, 2019[8] | Response assessed in accordance with the Revised Response Criteria for Malignant Lymphoma | A + CHP (226) | 21 months: 188 (83) |
| CHOP (226) | 21 months: 163 (72) |
| Kim S, 2019[22] | NR | CHOP (40) | 17.9 months: 24 (60) |
| ICED (41) | 17.9 months: 29 (71) |
| Li L, 2017[17] | International Working Group response criteria | GDPT (77) | NR: 51 (66.3) |
| CHOP (76) | NR: 38 (50.0) |
| Simon A, 2010[7] | CR: The disappearance of all clinical, radiological and biological anomalies for at least 4 weeks  PR: decrease of at least 50% of all baseline clinical and radiological anomalies was observed without appearance of new lesions | VIP-rABVD (43) | NR: 25 (NR) |
| CHOP/21 (45) | NR: 30 (NR) |
| **Non-RCTs** | | | |
| Li L, 2017[17] | International Working Group response criteria | GDPT | 20 (range 2-72): 35 (67) |
| CHOP | 20 (range 2-72): 25 (49) |
| Gallamini A, 2007[23] | ECOG criteria of response to therapy for NHL | CHOP-C (24) | 16 months: 18(75) |
| Kim J, 2006[24] | NHL response criteria | CHOP-EG (26) | No timepoint reported: NR (76.9) |
| Kim S, 2016[26] | Proportion of subjects who had a complete response or partial response | Everolimus + CHOP (30) | No timepoint reported: 27(90) |
| Maeda Y, 2017[28] | NR | EPOCH (41) | No timepoint reported: NR (78) |
| Rattarittamrong E, 2013[29] | Response assessment was made according to The International Working Group response criteria | CHOEP-21 (24) | 21months: 14(58) |
| CHOP-21 (11) | No timepoint reported: 8(72) |
| Shi Y, 2019[32] | CR or CRu | CHOP-chidamide (30) | No timepoint reported: 23 (82.1) |
| Zhang W, 2019[33] | NR | Chi-CHOEP (67) | 12.7 months (range, 0.3 to 30.8): 73.2 |
| d’Amore F, 2012[27] | CR/CRu + PR | CHOEP-14 /CHOP-14 (156) | No timepoint reported: NR (82) |
| Kim J, 2007[50] | NHL response criteria | CHOP with alemtuzumab (20) | 219 days (range, 35–368) days: 16 (80) |
| Corradini P, 2014[30] | International workshop 1999 Criteria | CHOP with alemtuzumab plus HyperCHidam (61) | 44 months: 40 (65) |
| CHOP with alemtuzumab (25) | 48 months: 18 (72) |
| Kluin-Nelemans H, 2011[31] | CR/PR | CHOP with alemtuzumab (20) | 29 months (range 19–41): 18 (90) |
| Abramson J, 2014[61] | NR | CHOP-like (237) | 39 months: NR (69.0) |
| HyperCVAD/MA (20) | 39 months: NR (85) |
| Chemotherapy (318) | 39 months: NR (73.0) |
| Akagi T, 2011[69] | NR | CHOP with or without rituximab (46) | NR |
| Broussais-Guillaumot F, 2013[66] | The disappearance of all clinical evidence of disease and a greater than 75% regression of the initial tomographic abnormalities | CHOP (208) | 60 months: NR (69.0) |
| Ellin F, 2014[62] | Classified according to the international harmonization criteria of any pathological residual masses judged as partial response in the absence of positron emission tomography CT. | CHOP (145) | NR:NR (70) |
| CHOEP (107) | NR:NR (81) |
| Jia B, 2016[42] | NR | CHOPE (39) | NR:30 (76.9) |
| CHOP (38) | NR:25 (65.8) |
| GDP (11) | NR:10 (90.9) |
| Kitahara H, 2017[43] | International Workshop to Standardize Criteria for Non-Hodgkin’s lymphoma or the revised version | CHOP or CHOP-like regimen (78) | NR:58 (74) |
| Liu X, 2019[49] | Based on the 2014 Lugano classification | CHOP (46) | 35.5 months: NR (82.6) |
| CHOPE (46) | 35.5 months: NR (76.1) |
| CHOPE/G (24) | 35.5 months: NR (75.0) |
| Norasetthada L, 2016[39] | NR | EPOCH (58) | NR:NR (75.4) |
| CHOP (58) | NR:NR (58) |
| Shin D, 2017[64] | NR | CHOP-like regimen (111) | NR:NR (72.2) |
| ICE (16) | NR:NR (70.0) |
| Zell M, 2016[37] | NR | IFN + AZT (1) | NR |
| Chemotherapy alone (23) | NR:NR (32) |
| Chemotherapy + antiviral (16) | NR:NR (38) |
| **PTCL Subgroups** | | | |
| **RCTs** | | | |
| Tsukasaki K, 2007[16] | CR + CRu + PR | VCAP-AMP-VECP | 10.9 months: NR (72) |
| CHOP- ATLL | 10.9 months: NR (66) |
| Sun Y, 2020[20] | International Working Group response criteria | GDPT: PTCL-NOS | NR: 9 (47.4) |
| CHOP: PTCL-NOS | NR: 0 (0.0) |
| GDPT: AITL | NR: 4 (18.2) |
| CHOP: AITL | NR: 3 (20) |
| GDPT: ALCL | NR: 10 (55.6) |
| CHOP: ALCL | NR: 16 (51.6) |
| GDPT: other types | NR: 10 (55.6) |
| CHOP: other types | NR: 2 (11.1) |
| **Non-RCTs** | | | |
| Maeda Y, 2017[28] | UMIN000000829; West-JHOG PTCL0707, Untreated PTCL patients | EPOCH  PTCL-NOS (21) | NR (71.4) |
| EPOCH  AITL (17) | NR (82.4) |
| Kluin-Nelemans H, 2011[31] | CR/PR | PTCL-NOS ALZ-CHOP (10) | 8 (80) |
| AILT ALZ-CHOP (6) | 6 (100) |
| Broussais-Guillaumot F, 2013[66] | NR | CHOP AILT (52) | 60 months: NR (67) |
| CHOP ALCL-ALK -(21) | 60 months: NR (76) |
| CHOP ALCL-ALK+ (20) | 60 months: NR (84) |
| Hodson A, 2011[48] | NR | Chemo alone ATLL (39) | NR:NR (49) |
| Combined chemo ATLL (26) | NR:NR (81) |
| Kitahara H, 2017[43] | International Workshop to Standardize Criteria for Non-Hodgkin’s lymphoma or the revised version | CHOP or CHOP-like regimen AITL (78) | NR:58 (74) |
| CHOP or CHOP-like regimen ALCL ALK-neg (78) | NR:58 (74) |
| CHOP or CHOP-like regimen EATL (78) | NR:58 (74) |
| CHOP or CHOP-like regimen PTCL-NOS (78) | NR:58 (74) |
| Lee Y, 2009[67] | NR | CHOP or CHOP-like regimen PTCL-U (74) | NR:NR (59.5) |
| Malpica L, 2018[35] | CR: decrease in the abnormal peripheral blood absolute lymphocyte count to <4x10^9/L  PR: >50% reduction | ATLL -AZT/IFN only (63) | NR:51 (32) |
| Chemotherapy ATLL (111) | NR:70 (77) |
| Pautier P, 1999[51] | CR: the disappearance of previously involved sited and the absence of B symptoms.  PR: tumor reduction of >50% of all previously involved sites | AITL Corticosteroids (8) | NR:6 (NR) |
| AITL Chemotherapy (25) | NR:17 (NR) |
| Chemotherapy after Corticosteroids AITL (8) | NR:8 (NR) |

Abbreviations: A + CHP = brentuximab vedotin, cyclophosphamide, doxorubicin, vincristine, prednisolone; AITL = angioimmunoblastic T-cell lymphoma; AMP = doxorubicin, ranimustine and prednisone; ATLL = adult T-cell acute lymphoblastic lymphoma/leukemia; CHOEP/CHOPE = CHOP + etoposide; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisolone; CHOP-C = CHOP with alemtuzumab, chlorphenamine, acetaminophen, and alizapride; CHOP-EG = CHOP with etoposide and gemcitabine; CMED = cyclophosphamide, methotrexate, etoposide, dexamethasone; COP = cyclophosphamide, vincristine, prednisone; EPOCH = etoposide, prednisone, vincristine, cyclophosphamide and doxorubicin; GDP = gemcitabine, cisplatin and dexamethasone; GDPT = gemcitabine, cisplatin, prednisone and thalidomide; GEM-P = gemcitabine, cisplatin, methylprednisolone; NR = not reported; PTCL = peripheral T-cell lymphoma; RCT = randomized controlled trial; VCAP = vincristine, cyclophosphamide, doxorubicin and prednisone; VECP = vindesine, etoposide, carboplatin and prednisone; VIP-rABVD = etoposide, ifosfamide, cisplatin alternating with doxorubicin, bleomycin, vinblastine, dacarbazine

Supplementary Table 5. Summary of Results: Costs and Resource Use

| **Author, Year** | **Country, Sample Size** | **Data Source** | **Study Population** | **Costing Currency (Year)** | **Definition of Costs** | **Direct Costs  Mean (SD)** | **Hospitalizations**  **N (%)** | **Length of Stay, Days** | **Outpatient**  **N (%)** | **ER**  **N (%)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aggarwal 2018[53] | US | Retrospective Cohort, US | PTCL | USD, $  (2015) | NR | Age:  18–45: $116,689 ($176,348)  45–59: $121,640 ($177,315)  60+: $83,229 (SD: $112,386)  Payer:  Medicare: $87,864 ($117720)  Medicaid: $127,052 ($221,859)  Private: $108,091 ($161,065) | 555 (NR)  Age  60+: NR (52%)  45–59: NR (31%) | Mean: 9.27 days (SD: 10.26, median 6 days) | NR | NR |
| Bosch, 2018[54] | Spain (Barcelona) | Academic hospital (inpatients and outpatients) | Referred to two hospital clinics and inpatient ward of one of the hospitals between January 2006 and September 2016 | NR | NR | NR | 101 (39) | NR | 160 (61) | Outpatient: 54 (34)  Inpatient: 77 (76) |
| Burudpakdee, 2016[55] | US | Insurance database | Commercially insured with PTCL in the US | USD, $ (2013) | Net payments received by the providers, as reported by the insurance carrier, excluding deductible, coinsurance, and co-ordination of benefits | Total: $6,328 (NR)  Hospitalizations: $2,034.79 ($6,924.30)  Admin: $1,238.84 ($3,496.78)  Outpatient: $117.24 ($186.30)  ER: $43.17 ($297.30)  Transplant: $639.20 ($2,495.86)  Transplant including inpatient and outpatient post-transplant: $126,094 (101,294) | 500 (50)  Mean no. of admissions per patient per month: 0.07 | Mean (SD): 6.4 (8.5) | 965 (96.5);  Mean no. of visits per patient per month: 1.35 | 470 (47);  Mean no. of ER visits per patient per month: 0.07 |
| Dumas, 2018[56] | France (Paris) | Hospital ICU | Admitted to ICU with PTCL | NR | NR | NR | PTCL-NOS: 41 (47)  ALCL: 13 (15)  ATLL: 11 (13)  HSTCL: 8 (9)  AITL: 6 (7) | Across all subtypes; median (IQR): 12 (14–17) | NR | NR |
| Kruse, 2014[57] | US | Insurance database | Diagnosed with PTCL between October 1, 2007 and September 30, 2012 (6% with ASCT) | USD, $ (2012) | Contracted allowed payment for a claim, as opposed to the practice charges, based on adjudication of the claim by the patient’s third-party insurance | Total: $9,356 ($11,426)  Drug: $6,196 ($11,122)  Admin: $918 ($763)  Other: $2,242 ($3,233) | NR | NR | NR | NR |
| Shah 2020[58] | US | Insurance database | Patients with newly diagnosed PTCL with ≥ 1 inpatient or ≥ 2 distinct outpatient visits between 2011 and 2017 | USD, $  (NR) | NR | All patients: Mean per year: $29,505  Mean PPPM: $2,459  CHOP patients: Mean adjusted per year: 7492 Mean adjusted per year: 7492 | All patients: 69.9%  CHOP patients: 83.1% | All patients: Mean (all-cause): 1.34 days CHOP patients: 1.6 days | Number of patients with ≥ 1 visit: 2536 (99.4%)  Mean PPPM: 1.65 | Number of patients with ≥ 1 visit: 1543 (60.5%)  Mean PPPM: 0.13 |

Abbreviations: AITL = angioimmunoblastic T-cell lymphoma; ALCL = anaplastic large cell lymphoma; ALK- = anaplastic lymphoma kinase-negative; ASCT = autologous stem-cell transplant; ATLL = adult T-cell acute lymphoblastic lymphoma/leukemia; ER = emergency room; HSTCL = hepatosplenic T-cell lymphoma; ICD-9 = International Classification of Diseases, Ninth Revision; ICU = intensive care unit; IQR = interquartile range; NK = natural killer; NOS = not otherwise specified; NR = not reported; PTCL = peripheral T-cell lymphoma; SD = standard deviation; US = United States; USD = United States dollar; WHO = World Health Organization