PROGRESSION-FREE SURVIVAL AND OVERALL SURVIVAL IN RELAPSED/REFRACTORY T-CELL LYMPHOMA PATIENTS ON CHEMOTHERAPY VS TARGETED THERAPY

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Introduction

- T-cell lymphomas (TCL) represent a diverse group of rare lymphomas with 34 individual neoplasms identified under the World Health Organization Classification of Haematolymphoid Tumors.[1]
- They make up to 10% of non-Hodgkin lymphomas.[2]
- Treatment options include chemotherapy, brentuximab, pralatrexate, romidepsin, and duvelisib. While choice of treatment in the first-line setting is well established, there is little data exploring preferences in the second or third-line.[3]
- The relapsed setting lacks a clinically meaningful therapeutic option and an ongoing unmet need.[4]

Methods

- Database search included patients with the four main subtypes of TCL: 1) not otherwise specified (NOS) 2) anaplastic large cell lymphoma (ALCL) anaplastic lymphoma kinase(+) (ALK) 3) ALCL ALK(-) 4) angioimmunoblastic TCL (AITL).
- Patients who received only one line of therapy were excluded.
- Individual chart review eliminated discrepancies.
- We categorized each line of therapy into chemotherapy or targeted therapy prior to performing our analyses.
- Targeted therapy included romidepsin, brentuximab, pralatrexate, immunotherapy, tipifarnib, pentostatin, MEDI-570, duvelisib, and vorinostat. Treatments included in the chemotherapy group include CHOP±R, EPOCH, ESHAP, HyperCVAD, ICE, CVP, IGEV, cyclophosphamide, gemcitabine, GemOx, bendamustine, nelarabine.
- Other data collected included age, sex, and CD30 status.
- The population was divided into older than 60 or younger than 60.
- We tallied the age status, number of men and women, and the CD30 status of each treatment type in each line of therapy as well and combined.
- Our primary end points were overall survival (OS) and progression-free survival (PFS)
- The Kaplan-Meier method was used to estimate survival curves.

Results

- The most common targeted treatment given was romidepsin (n=23) followed by brentuximab (n=17) and pralatrexate (n=7). Other treatment options used were immunotherapy (n=2), tipifarnib (n=2), pentostatin (n=1), MEDI-570 (n=1), duvelisib (n=1), vorinostat (n=1)
- The median ages for each group were 57 (Range: 36-78) for chemotherapy and 65 (Range: 44-83) for targeted therapy.
- 38% of the combined chemotherapy group were 60 years or older at the time of diagnosis while 66% of the targeted therapy group were 60 years or older. In the 2nd line group was larger (77% of patients receiving targeted therapy were 60 years or older) than in the 3rd line group (55.6%).
- 31 women (21 as 2nd line and 10 as 3rd line) and 35 men (26 as second line and 9 as third line) received chemotherapy. 23 women (11 as 2nd line and 12 as 3rd line) and 30 men (15 as 2nd line and 15 as 3rd line) received targeted therapy.
- In the 3rd line setting, 48% of the targeted therapy group were CD30 positive versus 54% in the 2nd line group. Brentuximab (CD30 antagonist) was included in the targeted group potentially influencing the results however, more patients received brentuximab in the second-line (32%) compared to the third-line (24%).

Results (cont.)

- In the relapsed/refractory setting (N=119), there was a trend to improved PFS (4.2 mo vs 2.8 mo, P= 0.238) and OS (27.4 mo vs 10.3 mo, P=0.114) favoring targeted therapy (Figures 1,2). In the 3rd line setting (N=46), patients who were treated with targeted therapy had improved PFS (4.2 mo vs 2 mo, P=0.012) and OS (30.6 mo vs 4.8 mo, P= 0.000) (Figures 3,4).

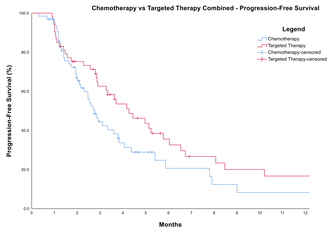


Figure 1: Chemotherapy vs targeted therapy PFS in the combined 2nd and 3rd lines

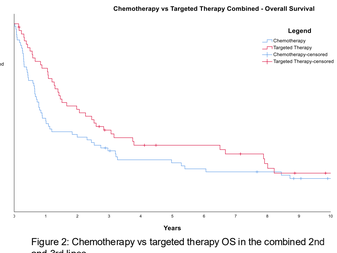


Figure 2: Chemotherapy vs targeted therapy OS in the combined 2nd and 3rd lines

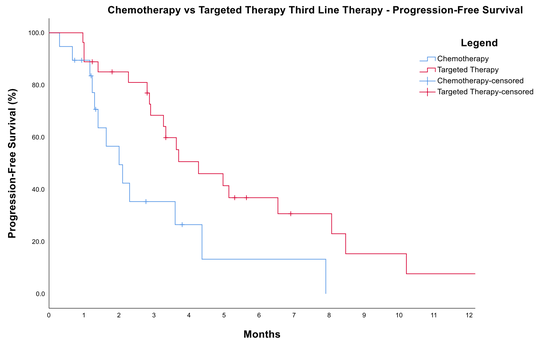


Figure 3: Chemotherapy vs targeted therapy PFS in the 3rd line

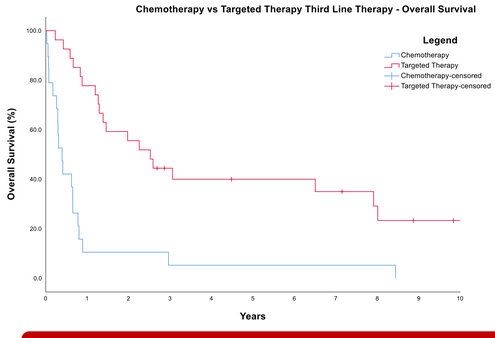


Figure 4: Chemotherapy vs targeted therapy OS in the 3rd line

Discussion

- Our study showed a benefit to the use of targeted therapy in relapsed/refractory TCL.
- In the 2nd line the trend favored targeted therapy however, statistical significance was achieved in the 3rd line setting.
- We believe this is likely due to increased resistance to chemotherapy with repeated exposure.
- These findings were true despite a median age difference of 8 years older in the targeted therapy group. This indicates that the targeted therapy group likely had poorer performance status.
- This is further evidenced by a larger age disparity in the second line favoring older patients (which did not achieve statistical significance) in the targeted therapy group relative to the third line.
- These novel agents are more tolerable compared to chemotherapy giving them another advantage as well.
- Brentuximab was considered a potential confounder skewing the results however higher proportion of patients in the 2nd line received brentuximab which did not achieve statistical significance despite CD30 positivity in the targeted therapy being relatively equal among 2nd and 3rd line patients
- Future studies would benefit from exploring specific targeted agents against specific subtypes of TCL.

References

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