

BACKGROUND

- ❖ Primary central nervous system lymphoma (PCNSL) is a rare type of non-Hodgkin lymphoma, mostly diffuse large B-cell type.
- ❖ In patients living with HIV (PLWH), PCNSL is a distinct entity, associated with EBV.
- ❖ PLWH are typically excluded from prospective studies. The management of PCNSL is adopted from immunocompetent patients.
- ❖ No recent study has examined the differences in clinical characteristics, prognosis, and clinical outcomes between patients with PCNSL with or without HIV infection in the era of widespread use of ART and stem cell transplant.
- ❖ The study aimed to compare the presentation, treatment, and outcomes of PCNSL patients with or without HIV.

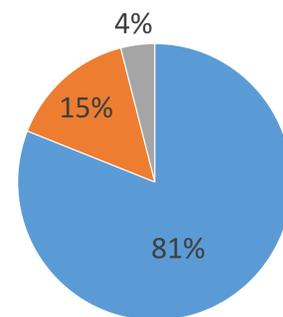
METHODS

- ❖ Retrospective study of all patients diagnosed with PCNSL at MD Anderson Cancer Center (MDA) (2000 – 2017) and Ben Taub Hospital (BTH) (2012 – 2016).
- ❖ Patients had no evidence of systemic lymphoma by whole body CT or PET scan and bone marrow biopsy.

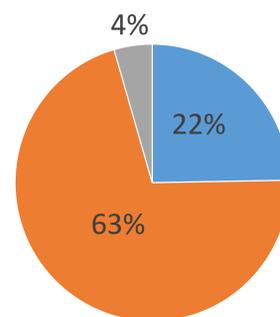
RESULTS

- ❖ 144 patients with PCNSL, 38 (26%) from BTH and 106 (74%) from MD Anderson.
- ❖ 27 patients (19%) had HIV infection, of these 30% (8 pts) were on ART, 85% had CD4<200 cells/ μ L, 74% had a detectable HIV viral load at the time of PCNSL diagnosis. EBV PCR on the CSF was positive in 59%.
- ❖ PLWH were significantly younger, more likely to be African-American, and male (Table 1).
- ❖ Most common presenting symptoms were focal neurological deficits (29%), cognitive and behavior changes (28%). B-symptoms in (15%). There was no difference in presenting clinical symptoms between the 2 groups. PLWH had significantly lower performance status with higher ECOG scores.
- ❖ Most common location of lesions was the cerebral hemisphere (59%). PLWH were more likely to have multiple lesions, to demonstrate hemorrhage, and peripheral rim enhancement. The tumor location and the size of the tumor were not different in patients with or without HIV (Table 1).

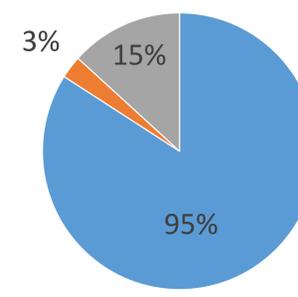
Initial therapy for all patients



Initial therapy for PLWH



Initial therapy for patients without HIV



■ MTX-Chemo ■ WBRT ■ Supportive care

- ❖ Survival outcome and disease progression were significantly associated with treatment modalities. Median OS was 1 month if did not receive treatment, 24 months if received WBRT alone, and 47 months if received chemotherapy (p<0.01). 24 patients (21%), all without HIV infection, underwent autologous SCT. Patients who underwent SCT had significantly longer OS and PFS.
- ❖ In multivariate analysis, not receiving SCT (hazard ratio 3, 95% confidence interval [CI] 1-11; p=0.04) was an independent factor for mortality and the only predictor of disease progression (hazard ratio 5, 95% CI 1-17; p=0.01). The hazard ratios of death were for WBRT, 0.06 (95% CI 0-0.7; p=0.02), and for chemotherapy, 0.05 (95% CI 0-0.5; p=0.01), as compared to no treatment.
- ❖ HIV infection was not associated with shorter OS or PFS in multivariate analysis.

Table 1. Baseline characteristics of all patients, HIV-positive and HIV-negative patients with PCNSL at MD Anderson/BTH (N=144)

Variable	All patients (N=144)	HIV positive (n=27, 19%)	HIV negative (n=117, 81%)	p-value
Median age at diagnosis, yrs (IQR)	60 (49-68)	38 (33-49)	63 (55-70)	0.001
Sex				0.02
Male	77 (53%)	20 (74%)	57 (49%)	
Female	67 (47%)	7 (26%)	60 (51%)	
Race/ethnicity				0.001
Non-Hispanic white	83 (58%)	3 (11%)	80 (69%)	
African-American	24 (17%)	16 (59%)	8 (7%)	
Hispanic	31 (22%)	8 (30%)	23 (20%)	
ECOG performance status				0.001
<2	86 (60%)	5 (19%)	81 (70%)	
≥2	57 (40%)	22 (81%)	35 (30%)	
MRI Findings				
Multiple lesions	68 (47%)	18 (67%)	50 (43%)	0.02
Involvement of deep brain structures	69 (48%)	14 (52%)	55 (47%)	0.6
Solid enhancement	122 (85%)	12 (44%)	110 (94%)	0.001
Rim enhancement	23 (16%)	15 (57%)	8 (7%)	0.001
Presence of hemorrhage	59 (41%)	16 (59%)	43 (37%)	0.03
IELSG prognostic score				0.26
0-1	23 (24%)	2 (11%)	21 (27%)	
2-3	66 (67%)	16 (84%)	50 (63%)	
4-5	9 (9%)	1 (5%)	8 (10%)	

CONCLUSIONS

- ❖ Epidemiology, imaging, and treatment vary for patients with PCNSL with and without HIV.
- ❖ Receiving MTX-based chemotherapy and SCT is strongly associated with better clinical outcomes.
- ❖ HIV infection was not an independent factor in mortality or disease progression.
- ❖ More efforts are needed to improve access to research and care for PLWH.