

Comparison of whole brain radiotherapy (WBRT) vs autologous transplantation (ASCT) in primary CNS lymphoma (PCNSL): a real-world propensity score (PS) matching analysis

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Disclosure

- Nothing to disclose



Background

PCNSL is a rare form of Non-Hodgkin Lymphoma (NHL) with historically poor outcomes.

High dose methotrexate (HD-MTX) based induction regimens followed by WBRT or ASCT consolidation have been shown in randomized trials to improve outcomes.

There are currently limited real world comparability studies amongst both consolidation modalities, especially in older patients.



Our study aimed to review long term outcomes in patients with PCNSL who underwent rituximab, MTX, vincristine and prednisolone (R-MVP) induction followed by either WBRT or ASCT consolidation at 2 cancer centres in Singapore.



Method

Retrospective study

103 patients with PCNSL treated between 2001-2023 at 2 cancer centres in Singapore involving patients responding to R-MVP induction, followed by either ASCT or WBRT consolidation (based on physician discretion) were identified.

Primary endpoints were progression-free survival (PFS) defined as time from induction treatment to relapse, progression, or death due to any cause; and OS defined as time from induction treatment to death due to any cause or last follow-up.

Cumulative incidence of relapse was also calculated.
Clinical outcomes were analysed using Kaplan-Meier curves, while propensity score (PS) matching analysis and Cox proportional hazards regression analyses were used for comparison between the ASCT and WBRT group.
Factors included in the PS matching included age and ECOG performance status.

Results

- 103 patients were identified.
 - 29 patients (28%) were > 65 and 24 patients (23%) had ECOG 2 or higher.
 - A total of 76 patients (74%) underwent consolidation with WBRT while 27 patients (26%) received consolidation with ASCT.
 - Patients who received ASCT had slightly higher median age of 61 versus 58 years, but a lower proportion of patients ECOG 2 or higher (15% versus 26%) compared to the WBRT arm.
 - After PS 2:1 matching, there were 42 patients in the RT group and 21 in the ASCT group.
 - There was a clear trend towards improved
 - 5-yr PFS (84% vs 53%, HR 0.35; 95% CI 0.1-1.21, P=0.10).
 - 5-yr OS (95% vs 68%, HR 0.25; 95% CI 0.03-1.9, P=0.18)
 - Lower cumulative incidence of relapse (15% vs 42% HR 0.40; 95% CI 0.12-1.32, P=0.13) in the ASCT group,
- Though these did not reach statistical significance.

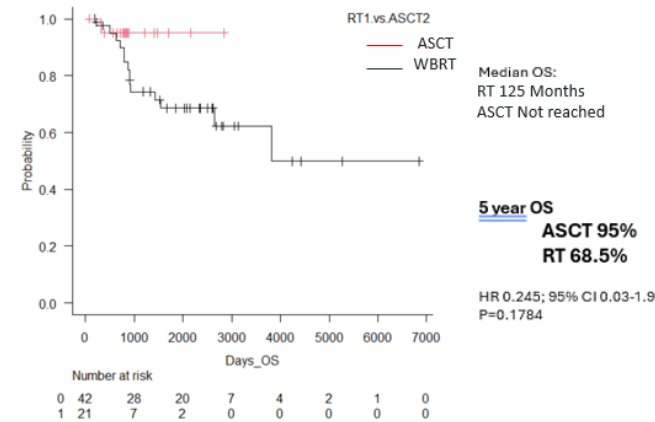


Table 1: 5 Year Overall Survival for ASCT vs RT population.

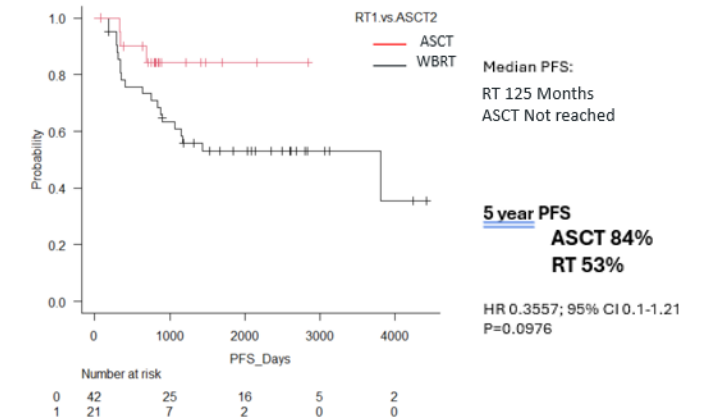


Table 2: 5 Year Progression Free Survival for ASCT vs RT population.

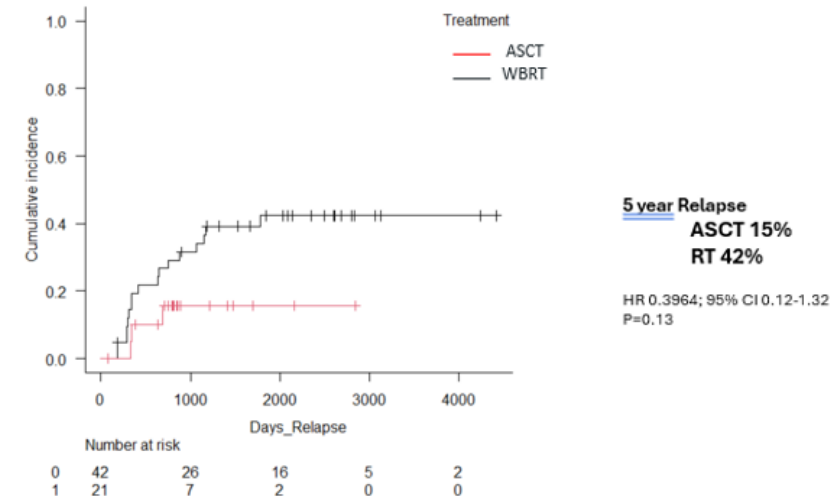
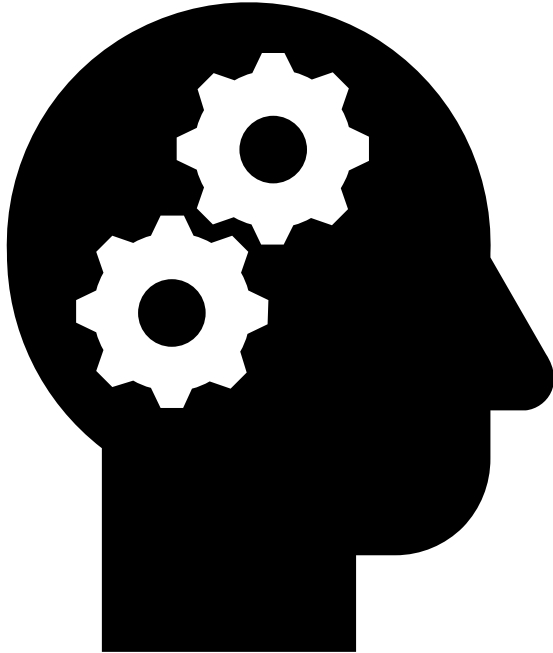


Table 3: 5 Year Relapse rate for ASCT vs RT population.



Conclusion

- In this real-world study including a significant proportion of older patients, our findings suggest that ASCT was at least comparable to WBRT as consolidation post R-MVP induction treatment.
- Given the proven increased neurotoxicity of WBRT over ASCT especially in older patients, our findings support the use of ASCT as a consolidation option patients with PCNSL.

Thank you!

