LymphomaHub

DLBCL

SOHO 2018 Virtual Coverage | Angiogenesis-related polymorphism as a prognostic marker in DLBCL

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On September 12–15 2018, the sixth annual meeting of the Society of Hematologic Oncology (SOHO) was held in Houston, Texas. The meeting covered a variety of topics in the latest advances in the pathophysiology and treatment of hematological malignancies.

Oral abstract NHL 088 was presented by Angelo Brito, University of Campinas, Sao Paulo, Brazil on "Angiogenesis' related polymorphism emerges as a prognostic marker in de novo large B-cell lymphoma patients". The aim of the study by Brito, *et al*, was to evaluate if there was an association between vascular endothelial growth factor (VEGF)A and the type 2 receptor (VEGFR2) single nucleotide polymorphisms (SNPs) and the clinicopathological features and outcomes of patients with diffuse large B-cell lymphoma (DLBCL). The study also aimed to determine an association between VEGF and VEGFR2 SNPs with angiogenesis-related proteins by immunohistochemistry.

Study Overview

- N = 168 patients with newly diagnosed DLBCL were included in the study and observed between June 2009 and September 2014 in centers in Brazil (median age = 57 years, n = 74 were male)
- Patients were treated with R-CHOP regimen
- TaqMan SNP Genotyping Assays was the method used to analyse VEGF and VEGFR2 SNPs

Results

- VEGF 634G/C genotypes had 1.91 (95%CI: 1.02–3.60) more chance of advanced stage and 2.96 (95% CI: 1.14–7.70) chance of grade III/IV toxicity
- VEGF 936C/T genotypes had 3.13 (95% CI: 1.24–7.93) more chance of not achieving complete response (CR) and 2.40 (95% CI: 1.14–5.04) more chance of presenting with grade III or IV toxicity during treatment
- VEGFR2 604T/C had a 2.01 (95% CI: 1.05–3.83) more chance of having a worse prognosis
- Wild VEGF 634GG gentotype had a higher vessel area and vascular perimeter and wild VEGFR2 1719AA genotype had a higher VEGF expression
- The estimated 5-year event-free survival (EFS) was 60.7% and overall survival (OS) was 65.6%
- 5-year EFS and OS were significantly shorter in patients with B symptoms, Ann Arbor stage III or IV, poor R-IPI, non-CR to R-CHOP, grade III or IV toxicity, VEGF 1154 GA or AA genotype and presence of VEGF ATCAGC haplotype
- The authors noted that in within their study patients with VEGF 1154GA+AA, VEGF936CT+TT and VEGFR2 1719AA genotypes had worse EFS and VEGF 1154GA+AA had worse OS

Safety

- N = 61 deaths occurred during the study due to toxicity (n = 14), disease progression (n = 45) and unrelated causes (n = 2)

Dr Brito concluded that the data in the study showed an association between VEGF and VEGFR2 SNPs enrolled in the angiogenesis pathway with prognosis in patients with DLBCL.

References

Brito A, Angiogenesis' related polymorphism emerges as prognostic marker in diffuse large B-cell lymphoma patients, oral abstract NHL 088, 2018 SOHO annual meeting, abstract and slides were provided to the Lymphoma Hub by Angelo Brito