41P Prognostic significance of BCL-2 expression in triple negative breast cancer (TNBC)

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Background: B- Cell lymphoma (BCL-2) is a antiapoptotic protein and an important clinical breast cancer prognostic marker but however its expression differs according to the molecular subtype and is reported to be a good marker only in Luminal A type. We aimed to assess its prognostic significance in patients with TNBC.

Methods: A single centre, non-randomized, retrospective study with a prospective arm done on TNBC treated at AIMS, Kochi between Jan 2009 and Nov 2014. A total of 113 patients after reviewing their FFPE blocks for ER, PR and HER-2 receptor status were tested for BCL-2, CK 5/6 and CK 14 by immunohistochemistry. Clinicopathological factors like age, size of tumor, nodal status, histology, MBR grade, presence of LVI and survival data were analyzed and outcomes were compared between Bcl-2 expression and TNBC with respect to DFS and OS.

Results: The Bcl-2 expression was positive in 23.9% of TNBC. The 6 yr DFS and OS was 80% and 79.9% respectively. There was a statistical significance for Bcl-2 expression among TNBC ($p = 0.026$) with 6 yr OS for Bcl-2 positive TNBC at 96.2% as compared to 74.5% for Bcl-2 negative patients. A trend towards statistical significance was noted in terms of DFS , with a worse outcome among Bcl-2 negative subset. The 6 yr DFS for Bcl-2 positivity was 92.4% as compared to 76% for Bcl-2 negative subset (p value 0.080). On univariate analysis, presence of LVI, age<35, Pathological stage, increased LN ratio and BCL-2 negativity were associated with poor outcomes ($p = 0.040$).

Conclusions: Our study revealed that Bcl-2 expression can be a independent predictor of poor outcomes in Triple negative breast cancer. Younger age, LVI, stage, LN ratio and BCL-2 negativity are associated with poor outcomes. However the survival outcomes seen in our TNBC patients much higher than the reported survival in literature.

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