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CD44v6 expression in primary breast carcinoma in western India: a pilot clinicopathologic study

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ABSTRACT

Aims and background. In India, breast cancer is becoming the number one cancer in females. CD44 is believed to play a critical role in the metastatic process, and its spliced forms, especially CD44v6, bestow a metastatic phenotype onto non-metastatic cells. However, the biological significance of CD44v6 in tumor progression remains controversial. Hence, pursuing our interest based on previous observations of a significant association of CD44 standard with advanced stage and poor survival, the present study investigated CD44v6 expression in our series of breast cancer.

Methods and study design. For this purpose, 85 untreated primary breast cancer patients were enrolled. CD44v6 was localized immunohistochemically, and its mRNA transcript along with CD44v9 and CD44v10 mRNA were studied by reverse transcriptase polymerase chain reaction.

Results. Membranous and/or cytoplasmic staining of CD44v6 was observed in 48% of the primary breast cancers. CD44v6 protein expression showed no significant association with clinical risk factors and survival. At the RNA level, the expression of CD44v6, CD44v9 and CD44v10 in breast cancers was 44%, 22% and 36%, respectively. CD44v6 mRNA expression significantly correlated with CD44v9 ($P = 0.013$) and CD44v10 ($P = 0.0001$) but showed no correlation with its protein expression. Furthermore, except for CD44v6 mRNA, none of the other isoforms were associated with clinical risk factors or survival. Loss of CD44v6 mRNA was significantly associated with poor overall survival ($P = 0.018$). In multivariate overall survival analysis, loss of CD44v6 mRNA expression was a significant independent factor of a poor prognosis ($P = 0.045$) with a relative risk of 2.10, entering the equation at step three after stage and lymph node status.

Conclusions. Preliminary results suggest an important role of CD44v6 in our series of patients. Down-expression of CD44v6 may be associated with the tumor cell phenotype, facilitating aggressive growth properties that affect the prognosis. Free full text available at www.tumorionline.it

Key words: breast cancer, CD44v6, clinicopathologic parameters, prognosis.

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