December 03-04, 2018
Dubai, UAE

Role of EFGR receptor in breast cancer: An analysis of biomolecular receptor study and its clinicopathological correlation

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Introduction: EGFR Receptor is member of human epidermal receptor is frequently expressed in diverse forms of cancer. Many studies have studied the relation of EGFR receptor positivity in breast cancer and its prognostic value but yet no conclusions have yet been drawn. We attempt to study the receptor positivity in our patient and its correlation with various clinic-pathological prognostic predictors and outcomes Materials & Methods: Data of 355 patients of breast cancer registered in our department between Nov 2014 to Nov 2016 and followed up until December 2016 was collected and reviewed for epidemiological and clinical features. Results of total 355 patients analyzed, TNBC group was most common (n = 152) (43%) followed by Luminal A (25%). Median age at disease presentation was 45.3 years (24–73 years. The EGFR receptor positivity rate was 30.3%. EGFR receptor negative patients presented as early breast cancer significantly more than EFGR receptor positive patients (47.36% vs 27.10% p=0.046).Significantly higher proportion of EGFR receptor positive patients presented with Grade 3 cancers (44.10% vs 19.16% p=0.049). Nodal involvement was significantly more in EGFR receptor positive patients (66.6% vs 37.5% p=0.0364). Pathological complete response was significantly associated with EGFR receptor positivity (16.1% vs 12.5% p=0.0349). There were more recurrences in surgically treated group with EFGR receptor positivity than negative group but this difference did not reach significance (18.1% vs 5.2% p=0.061).

Conclusion: We found that our breast cancer were quite young with the median age almost two decades earlier than that of west with very high number of patients presenting as advanced stage and triple negative phenotypes. We found that EFGFR receptor positivity in almost one third of the patients. This could be subgroup of patients which could be targeted by anti EFGR therapy. This EFGR receptor positivity also acted as surrogate for aggressive disease which was shown by significantly larger proportion of advanced stage, high grade & node positive disease present in receptor positive patients. This subset showed a higher rate of pathological complete response in patients subjected to neoadjuvant chemotherapy.. As we continue this study EFGR receptor positivity may emerge as a true prognostic marker of breast cancer.

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