Summary & Conclusions

Breast cancer is a heterogeneous tumor and not a single marker is known so far which can stamp the prediction of recurrence and overall survival of the patients. Literature on biomarkers is available where the molecules are estimated at DNA, RNA and / or protein levels with an important role in prognostication and disease monitoring in breast cancers.

An attempt is made with a view to establish a new tumor marker that may be useful as a diagnostic aid as well as prognosis of breast cancers. This prospective study was designed to find out circulatory level of a marker IGF-II since it is estimated without any surgical intervention allowing its repeated estimation.

The breast tumors detected in Western India have a low ER content (a gold standard to stamp hormone dependence). Such hormone independent tumors may have strong mitogenic signals from other molecules like growth factors since breast epithelium is sensitive to and known to have mitogenic stimulus obtained from growth factors like IGF axis.

In the current case-control study, we estimated the circulating levels of Insulin Like growth Factor – II (IGF-II) in breast cancer patients (N=100) diagnosed at The Gujarat Cancer & Research Institute and healthy controls (N=55).

The second aspect of the study was the comparison of IGF-II levels with the known clinico-pathologic prognosticators. The levels were correlated with several clinical variables like Age, Menopausal status and Laterality. The pathologic variables studied here are Tumor size, Nodal status, Distant Metastasis, Stage, Histologic Grade and Histologic type.

- Age distribution in the controls as well as in breast cancer patients were similar in all the three age groups. IGF-II significantly lowered in breast cancer patients as compared to controls with increasing age.

- There was a significant decline in the IGF-II levels in breast cancer patients as compared to controls in all three menopausal groups

- IGF-II levels exhibited a similar distribution in all different tumor sizes

- Node positive patients had significantly lower IGF-II levels as compared to node negative patients

- IGF-II was similar in patients with or without distant metastasis

- IGF-II decreases with an increase in stage at diagnosis (Stage I to Stage IV)

- IDC was the major histologic type in ~80% patients. Thus majority of the patients had biologically aggressive tumors with possible high risk of relapse and decreased overall survival

- IGF-II levels were not influenced by histologic grade