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Editorial

Management of breast cancer-the paradigm in crisis!!

Ever since the days when Paget gave his "seed" and "soil" theory for cancer, there has been a haphazard and disorderly development in the field of oncology to find out the basis of cancer. Regarding breast cancer, it may easily be said that the more we know more we realize that we do not know about this deadly disease. During the Halsteadean era it was considered a localized disease that became generalized with the passage of time in a predictable and orderly manner. The lymph nodes were believed to be the barriers before the metastases entered the venous system through lymphatico-venous communications making the disease systemic. This lead to a general approach that was extra aggressive locally and it did save some lives but at a very heavy price in the form of a poor quality of life due to associated morbidity-physical as well as psychological.

Inspite of being very aggressive, the outcome in this cancer only improved marginally. It was becoming more and more apparent by the 19th century that there is more to this cancer than what meets the eye locally. Beatson had stumbled upon a very special observation that removal of ovaries can be protective, what forms the basis of our understanding of hormone targeted therapy in breast cancer [1].

It became quite obvious by the end of last century that Breast cancer is a systemic disease and the absence of lymph node involvement does not necessarily mean any systemic metastases and infact involvement of lymph nodes indicates the tumour host *in vivo* interaction indicating the increased likelihood of metastases thus a poor prognosis. Optimum local surgery could therefore be less mutilating (Breast conserving surgery, or modified radical mastectomy rather than radical mastectomy) and supplementation of systemic chemotherapy should ideally improve the outcome [1].

Systemic chemotherapy however did not necessarily mean a better outcome in all tumours and patients as the tumour behaviour ("G" of oncology) would ultimately play the pivotal role in the outcome. Chemotherapy is more like killing a mosquito with a gun, in the sense that with response, morbidity of toxicity cannot be excluded. The outcome however has not changed remarkably and more of chemotherapy only added to morbidity and not survivals.

The future therefore lies in the understanding of the cell cycle in breast cancer and signal pathways, so that they may be blocked selectively with antibodies that may target these pathways. It has been observed that the genetic basis of breast cancer i.e. increased activity of proto-oncogenes (e.g. BRCA-I,II) as accelerators and failure of tumour suppressor genes(p53 etc.) as brakes can lead to the cellular accident associated with overproduction of growth factors, flooding of the cell with replication signals, uncontrolled stimulation in the intermediary pathways, cell growth by elevated levels of transcription factors . Since the pathways may be multiple, it may need multiple blocks with these magic bullets. In the future preventive [2, 3] oncology may replace the aggressive local and systemic approach thus improving the local, systemic and over all outcome in this cancer.

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