CHAPTER - 2

SCOPE OF THE THESIS
2.1. AIM AND SCOPE OF THE THESIS

Breast cancer is one of the most common cancers in women of developed and developing countries. In India, it is the second most frequent cancer, which is estimated to be 19.3% of total female cancers. The exact cause of breast cancer is not completely known, but presumably it represents a complex interplay of genetic susceptibility and environmental factors. The breast tumorigenesis may be induced by a variety of agents including radiation, chemicals, hormone, nutrients and viruses.

The increasing global incidence of breast cancer emphasises the need to understand the various biochemical alterations and mechanisms involved in the pathogenesis of breast cancer.

Oxygen free radicals generated from a variety of agents including radiation, chemicals, hormones and nutrients are known to induce structural and functional changes in cellular macromolecules and eventually neoplastic transformation.

The present study was therefore undertaken to assess the extent lipid peroxidation and status of antioxidants (GPx, CAT, GSH, Ascorbic acid, Uricacid etc) in circulation of patients with breast cancer at four different stages.

The primary aim of the thesis was to analyse the antioxidant defense system in circulation against OFR induced lipid peroxidation and evaluate the role of oxidative stress in the pathogenesis of breast cancer.
Further the aim of our study was to evaluate tumor markers such as ACP, ALP, Sialic acid levels in circulation of breast cancer patients at four different stages and to compare our findings with age matched controls.