Concluding Remarks
The work presented in this thesis was aimed to observe the biological behaviour of breast cancer and the role of cancer antigen (CA 15.3) in predicting occult metastasis. This study of 100 breast cancer patients from Eastern India showed breast cancer is still more common in the elderly and the postmenopausal patients like the developed countries. Patients’ endogenous and exogenous factors such as null parity, negative history of breast feeding, use of oral contraceptives, family history of breast cancer did not show any significant impact on the risk of breast cancer. However BMI was found to be an independent risk factor in our study. Post-menopausal women with BMI greater than 25 Kg/m² had higher risk for breast cancer. The nature of breast cancer was observed by classifying it into molecular subtypes (luminal A, luminal B, HER-2/neu and triple negative). Luminal A type breast cancer was prevalent among patients. HER-2/neu and triple negative types were aggressive in nature as obtained by the clinico-pathological observation. A relatively higher percentage of these cases were associated with nodal metastases. Study of breast cancer gene (BRCA1 and BRCA2) revealed that expression in protein level was either abnormal (in case of BRCA1) or decreased (in case of BRCA2) among most of the patients. Deviation from normal expression was associated with higher histological grade and nodal metastasis and thereby suggestive of aggressiveness of the disease. Cancer antigen 15.3 (CA 15.3) was proved to be an effective marker in predicting occult metastasis. Though average post-operative CA 15.3 level was declined (<25 u/ml) from high pre-operative level, 31% had persistently elevated marker value on post-operative follow-up. Among these high risk patients, 80.6% experienced disease recurrence (either local or distant metastases). The relationship between disease recurrence and post-operative high CA 15.3 level was highly significant.
Taken together all the findings, we can conclude that patients' menopausal status together with BMI can help to identify high risk patients. Measurements of CA 15.3 level at a regular interval on post-operative days can also be useful to identify those breast cancer patients who are at high risk of disease recurrence. Furthermore, understanding of the molecular classes of breast cancer that vary in clinic-pathological features is important because it may lead to new biological insights and eventually to better therapeutic option.