**Abstract**

**Objective:** The study aims to investigate if soluble salivary human epidermal growth factor receptor-2 (HER2) would play a role in the diagnosis of breast cancer patients and also to find out the influence of demographic and hormonal factors on the salivary HER2 levels in breast cancer.

**Materials and method:** A total of 45 subjects were selected and divided into three groups: Group A: healthy patients (n=15), Group B : HER2 negative breast cancer patients (n=15), and Group C: HER2 positive breast cancer patients (n=15). Patient demographic data, past medical, family and habitual history were noted and the patient's saliva was collected. Assessment of salivary expression of soluble HER2 was done by using an ELISA kit.

**Results:** The salivary HER2 levels in group A were 32.3, in group B were 43.2 and in group C were 147.8. On evaluating the risk factors with the salivary HER2 levels it was found that patients with increased age(p=0.007), positive family history(p=0.006), patients with the habit of tobacco chewing(p=0.001) and patients with no history of Breastfeeding (p=0.001) showed a statistically significant result.

**Conclusion:** The salivary HER2 levels have been increased in both the HER2 positive and negative group when compared with the control group, thereby salivary HER2 analysis can be used as a non-invasive diagnostic tool in screening Breast cancer patients. The salivary samples of the patients with risk factors may be evaluated for HER2 levels thereby prompting the early diagnosis of HER2- positive breast cancer, which is stated to be more aggressive than other variants of breast cancer.

**Keywords**: *Breast Cance; Risk Factors; Saliva, Screening; Tumor Marker*