

## ANALYSIS OF HUMAN EPIDERMAL FACTOR RECEPTOR 2 (HER2) EXPRESSION BY IMMUNOHISTOCHEMISTRY (IHC) METHOD IN BREAST CANCER AT THE NATIONAL CANCER INSTITUTE OF SRI LANKA

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**Background:** In recent decades, medical science has uncovered some important reasons why breast cancers do not all behave alike. One of those reasons has to do with HER2, the human epidermal growth factor receptor -2.

**Aim:** To analyse HER2 receptor expression in breast tumors in Sri Lanka.

**Method:** A retrospective analysis was carried out using data extracted from bed head tickets. Sampling was taken over a period of period of 5 years (2011/01/01 to 2015/12/31) in one unit.

**Results:** A total of 612 patients were admitted. IHC for HER2 were positive in 134(21.8%), equivocal in 174 and negative in 304 cases. All equivocal cases were further analyzed by FISH. Out of which 66 were positive, 107 were negative and one was equivocal. Altogether HER2 was positive in 200 patients (32.6%). ER was positive in 394 and PR was positive in 349 cases. Both were positive in 321 cases. There were 78 triple positive cases (12.7%). 197 HER2 positive patients were treated with Trastuzumab (Herceptin) and three patients refused. HER2 was mostly positive in stage 3c (51%) followed by 3a (36%), 2a & 3b (32%), 2b (30%), 1a (26%) and 0,1b & 4(25%). According to the age groups HER2 was mostly positive in 20-40 age group (38%) followed by 40-60(36%) and >60(27%). Majority of CA breast patients were from 40-60 age group (298) followed by >60(243), 20-40(71) and <20(0). Most of the patients were in stage 2a-(192) followed by 2b-(153), 3a-(85), 1a-(69), 3b-(62), 3c-(37), 1b-(8), 0-(4) and 4-(2).

**Conclusion:** Percentage of positive cases of HER2 was a bit higher than that reported in Western countries. Therefore accuracy of positive results should be tested regularly. Mechanisms targeting early detection of CA breast should be improved.

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