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Risk factors and clinico-pathological profile of Triple Negative Breast Cancer; A comparative study done in southern province of Sri Lanka

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Objectives: To compare the risk factors and clinico-pathological features of Triple Negative Breast Cancer (TNBC) and non-TNBC in females in Southern Province of Sri Lanka

Methods: This retrospective study included all breast cancer patients who had sought the immunohistochemistry services at our unit from May 2006 to December 2012. The tumours which were completely negative for ER, PR (Quick score = 0) and Her-2 expression of 0 and 1+ were considered TNBC. Tumour grading and assessment of ER, PR and Her-2 were done by the principal investigator. The laboratory records and a pre-tested, interviewer-administered questionnaire were used to collect data. The Chi-square test was used to determine the statistical significance.

Results: This study enrolled 944 breast cancer patients (269=TNBC, 532= Non-TNBC and 143= unknown). The patients with TNBC presented at a younger age ($p=0.043$) with high grade (χ^2 trend <0.001), larger tumours (χ^2 trend $=0.007$), with higher Nottingham prognostic index (χ^2 trend $=0.003$) and no associated DCIS ($p=0.015$) compared to the non-TNBC. There was no significant difference between TNBC and non-TNBC with regard to the grade of DCIS, pathological stage, lymph node metastasis and presence of LCIS, Paget's disease and lympho-vascular invasion. There was no significant difference between TNBC and non-TNBC with regard to any of the risk factors of breast carcinoma assessed.

Conclusions: The poor prognosis of TNBC can be explained by its unique features including younger age at presentation and associated unfavourable histopathological features. There is no significant difference between the two groups with regard to the associated risk factors.