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Comparison of pathological features between ≤ 40 years and >40 years women with breast carcinoma at a tertiary care centre in Sri LankaD. S. Gamlaksha^{1*}, H. D. Wijesinghe^{2,3}, S. De Silva^{4,5}, M.M.A. Jayawickrama¹, M.V.C. de Silva^{2,3}¹Department of Histopathology, National Hospital of Sri Lanka, Colombo, Sri Lanka.²Department of Pathology, Faculty of Medicine, University of Colombo, Sri Lanka.³Centre for Diagnosis and Research in Cancer, University of Colombo, Sri Lanka⁴Postgraduate Institute of Medicine, University of Colombo, Sri Lanka⁵Faculty of Biology, Medicine and Health, University of Manchester, United Kingdom

Introduction and objectives: Studies investigating features of breast carcinoma (BCa) in young women in Sri Lanka are limited. We describe and compare the pathological characteristics of BCa in a cohort of Sri Lankan women ≤ 40 and >40 years of age.

Methodology: This descriptive cross-sectional study includes BCa (wide local excisions and mastectomies) reported at the National Hospital of Sri Lanka from 2014 to 2018. Clinical details, invasive tumour size, tumour T stage and lymph node status were extracted from histopathology reports. The haematoxylin and eosin-stained slides and immunohistochemistry slides of all cases were reviewed to determine tumour type, Nottingham grade (NG), three tier categorization of ductal carcinoma in-situ (DCIS), stromal percentage, nature of the stroma (myxoid or desmoplastic), percentage of necrosis, percentage of tumour infiltrating lymphocytes and ki 67 index. The presence of vascular invasion, perineural invasion (LVSI), lobular carcinoma in-situ, lobular cancerization, hormone receptor and HER 2 status were also assessed. Mann-Whitney, Pearson's chi-square and Fisher exact tests were used to statistically compare the pathological features between both age groups using SPSS 23.0

Results: Data was collected from 411 patients (99 ≤ 40 years; 312 > 40 years). Aggressive pathological features (high NG, LVSI, high grade DCIS, lobular cancerization, ki 67 index $>14\%$, triple negativity and high Nottingham prognostic index (NPI)) were more frequent in the ≤ 40 -year age group. There was a statistically significant association between the younger age category and low stromal percentage ($p=0.007$), high grade DCIS ($p=0.001$), lobular cancerization ($p<0.001$) and poorer NPI ($p=0.04$).

Discussion and conclusions: BCa in young women in Sri Lanka showed aggressive pathological characteristics and was associated with poor prognostic indicators.

Keywords: breast carcinoma, young, pathological characteristics

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