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Prevalence, clinicopathological characteristics and short term survival of triple negative and basal like breast carcinoma in a cohort of Sri Lankan patients

H. D. Wijesinghe[1], P. Thuvarakan[1], G. K .Wijesinghe[1], J. Fernando[2], U. Senarath[1] and M. D. S. Lokuhetty[1]

Faculty of Medicine, University of Colombo, Sri Lanka[1]
National Hospital of Sri Lanka[2]

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Introduction
Information on triple-negative (TNBC) and basal-like (BLBC) breast carcinoma (BCa) is limited in South-Asia. We aimed to determine the prevalence and clinicopathological characteristics of TNBC and BLBC and short-term survival of TNBC among a cohort of BCa patients.

Methodology
Clinicopathological characteristics and short term survival of 211 women with BCa treated at the National Hospital of Sri Lanka from 2012-2014 were analyzed, excluding post-neoadjuvant chemotherapy cases. Immunohistochemistry for hormonal and HER2 receptors and basal markers (CK5/6, CK14, EGFR, 34βE12) were performed on TNBCs. Data was analyzed using chi-squared test, logistic and Cox-regression.

Results
Forty-five (21.33%) were TNBC (95%, CI=15.8%-26.86%), correlating with younger age (p=0.03), premenopausal state (p=0.047), negative lymph nodes (p=0.016), lower stage (p=0.011), higher Nottingham grade (p<0.001), higher nuclear grade (p<0.001), increased mitoses (p<0.001), absent tubule formation (p=0.001), moderate/extensive necrosis (p<0.001), moderate/severe lymphoid infiltrate at tumour edge (p=0.002), pushing margins (p<0.001), absent ductal carcinoma-in-situ (DCIS) (p<0.001) and absent/mild central desmoplasia (p<0.001). Younger age (p=0.05), higher nuclear grade (p=0.017), reduced tubular differentiation (p=0.049), increased tumour necrosis (p=0.022) and reduced vascular density (p=0.02) were TNBC associated on logistic regression. Of TNBCs 23(52.3%) were BLBCs (95%, CI=37.71%-66.89%). Only extensive necrosis significantly correlated with BLBC (p=0.011). TNBC was unassociated with reduced overall/disease free short-term survival in 142(67.3%) patients for whom follow-up data was available.

Discussion
TNBC prevalence was comparable to studies from the Indian-subcontinent, however, higher than in the West. Clinicopathological characteristics were similar. Lack of association with adverse short-term survival was possibly due to exclusion of post-chemotherapy cases.

Conclusion
Triple negative breast carcinoma prevalence was 21.33%. Younger age, premenopausal status, low TNM stage, high tumour grade, necrosis, pushing margins, lymphoid infiltrate at tumour margin, absent DCIS and absent/mild central desmoplasia were predictive of triple negative breast carcinoma. Moderate/extensive necrosis in a tumour with this morphology was predictive of basal like breast carcinoma. Triple negative breast carcinoma was not predictive of adverse short-term survival.