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Triple negative breast cancer: Is there a difference across the globe?

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Background: Triple negative breast cancer (TNBC) account for 15%-20% of all breast cancers and has relatively poor prognosis with documented 5-year OS of 62%[1]. The poor prognosis is attributed to absence of a definitive target molecule, though recent papers suggest a role for androgen receptors[2]. Chemotherapy and adjuvant radiation remains the standard-of-care. Audit of all cases of TNBC treated at our tertiary cancer care centre was done with intent to analyze the pattern of failure.

Methods: Details of all TNBC patients, treated from January, 2004 to June, 2015 were retrieved from the electronic medical records and were analyzed.

Results: A total of 276 TNBC patients were treated in this 10 year period. Median follow-up was 52.92 months (range: 0.07–149.8 months). Median age of presentation was 50 (range: 25-81). 96.4% of patients had infiltrating duct carcinoma. MRM was offered for 67.4% and BCS for 24.3%. 92% had axillary dissection. Upfront chemotherapy was offered for 18.8%, and adjuvant chemotherapy for 77.2%. 49.6% received adjuvant radiation. Fifty (18.1%) patients had recurrence; 4 local (1.4%), 3 regional (1.1%) and 40 distant (14.5%). Three patients had regional and distant failures. Among the 40 distant metastasis, 12 were brain, 8 skeletal, 4 hepatic, 2 pulmonary and 18 had multi-site. 190 (69%) patients were alive with no disease at last follow up. 5-year overall survival (OS) was 83.7%. Stage was the only significant factor affecting OS. Stage I had 100% 5 year OS, stage II, 88.2%, stage III, 72.4% and stage IV, 53.3% (p - <0.0001). Stage III B which includes all T4 patients had relatively low (50%) 5-year OS (p - 0.003). Median OS for T4 patients was 36.2 months (p - 0.004). 5-year OS in the failure-free group was 94.6%. Those who had failed had a median OS of 39.9 months (p - <0.0001). Among the distant failures, skeletal failures fared better with median OS of 71.7 months, followed by multiple-sites (39.1), pulmonary (36.2), hepatic (28.8), and brain (21.8) (p - <0.0001). 5-year DFS was 77.5%. Median time to failure was 13.56 months (range 0.07-113.17 months). BCS patients showed a trend towards better DFS compared to MRM patients (90.08% vs. 84.1% - p – 0.06).

Conclusions: Failure in TNBC is generally systemic and is approximately 4 times more than loco-regional failures. Irrespective of nodal status T4 lesions fared poorly. Patients with BCS had less failures compared to MRM, probably due to early disease and addition of adjuvant radiation. Contrary to western literature our TNBC patients had better survival: 5-year OS of 62% versus 83.7%. This difference in the pattern of TNBC in our subset of patients needs further evaluation.