Letter to the Editor

Survival of women with locally advanced breast cancer at a teaching hospital in Lahore

Madam, the aim of this letter is to improve the understanding of a relatively new statistical technique (in context of research in our country) to acquire high quality research and health care services.

We recently read the above mentioned article in the latest issue of this journal. Unfortunately, little is known and published about the survival of cancer patients in our country mainly because we do not have any functional central recording system (Cancer Registry) where all the cancer patients could be registered. In such a scenario, authors of the above article should be appreciated that they registered their patients and followed them up for a fairly long period to estimate the survival.

We have a few comments about this article. First, the methodology of the article does not provide any details regarding "censoring date" and it confuses further when it states that patients who presented from year 1996-2007 were included in the study. It is possible to calculate 5 and 10-years survival for those who were diagnosed before the year 2000 but the patients diagnosed after the year 2000 couldn't actually be included in 10-years survival analysis. In essence, censoring information would have cleared this confusion that how all the calculations have been made.

Second, on the basis of Cox proportional hazards model, authors resulted that tumour size ($\leq$ 5 cm), $\leq$ 3 nodes involvement and receptor-positive disease were significant "predictors" of event free survival, while $\leq$ 3 nodes involvement and receptor positive disease were the most significant "predictors" of overall survival. These findings of the study are prone to confounding effect of age, co-morbidity and even obesity (although controversial). Substantial amount of literature has suggested that younger age has significant association with worse prognosis among breast cancer patients and the risk of death sharply increases if the patient is younger.[1-6] Similarly, considerable amount of literature has revealed that presence of co-morbidities has significant association with poorer survival.[4,7-9] Additionally, obesity is also linked with poor survival among breast cancer patients.[10-14] All these factors increase the hazards of death among breast cancer patients, so it is crucial to include these variables in Cox-regression analysis to adjust their effects and if not included then results can be misleading.

Although, tumour size, nodal involvement and receptor positive disease all have well recognized role in cancer survival of breast cancer patients but it is essential to model the most common determinants of survival (age, co-morbidities and possibly BMI) as well, to estimate the exact size of effect for tumour and node related characteristics. This study has reported increased hazard of death from 18% to 72% due to different tumour related factors, while previous literature has reported 45% or even more than double hazard of death due to obesity and co-morbidity independently.[9,13] Now the question is still there that whether the difference in hazards observed in this study can be attributed to tumour related factors or is it due to age, co-morbidity and obesity? And this could have been answered with slightly better application of Cox-regression analysis.

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