



Impact of Positive Family History on the Survival of Breast Cancer

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Dear Editor-in-Chief

Breast cancer is the most common type of malignancy among women and affects about 2.1 million people each year. Besides, the highest mortality rates from women's cancer are specific to this cancer, such as in 2018, in which 627,000 women died due to this cancer (1). Efforts to find pathological and therapeutic factors predicting survival in various types of cancer have increased (2-5). In addition to fertility and lifestyle risk factors, such as puberty at lower ages and hormone therapy, a family history of breast cancer increases the risk of this malignancy so that the risk of breast cancer in the presence of family history is twice the normal population and in the case of a diagnosis in relatives aged less than 50 years, this risk will be of even higher magnitude (6, 7).

The relationship between family history and the overall survival of breast cancer patients is not clear. Although some evidence show no effect on survival of patients with a family history of breast cancer (8), results of higher survival rate of patients with positive family history than patients without a family history are published (9). We tried to investigate whether any difference in

overall survival of patients with positive and negative family history exists.

The study was approved by Shahid Beheshti University of Medical Sciences Ethical Committee with code number IR.SBMU.RETECH.REC.1396.167.

For evaluation of this effect, 1197 patients with breast cancer registered at Shohada-e-Tajrish Hospital in the period of 2006-2019 were studied. Of these, 331 (27%) patients had a family history of breast cancer and 866 (73%) patients had no family history. The average age of patients was 55.7 with a standard deviation of 12.13 years. Demographic data of patients were considered in both groups (as in positive family history and absence of family history). These include age, age at breast cancer diagnosis, family history of breast cancer, age of menstruation, menopause, and smoking (Table 1). The overall survival of patients was calculated from breast cancer diagnosis to death. To assess the survival difference in patients with positive family history and the absence of family history, the Kaplan-Meier method was used for survival evaluation (Fig. 1) and then compared with the log-rank test.



Table 1: patient characteristics and survival

<i>Factors</i>	<i>FH positive</i>	<i>FH negative</i>
Age (yr)	53.8	55.7
Age of diagnosis(mean)	43.1	48.9
Age of first pregnancy (mean)	25.6	28.3
Number of pregnancy (mean)	3	3
Smoker	21	61
Fertility period (mean)(yr)	34	36
Deaths	17	57
Survival(mean)(months)	24.854	34.111

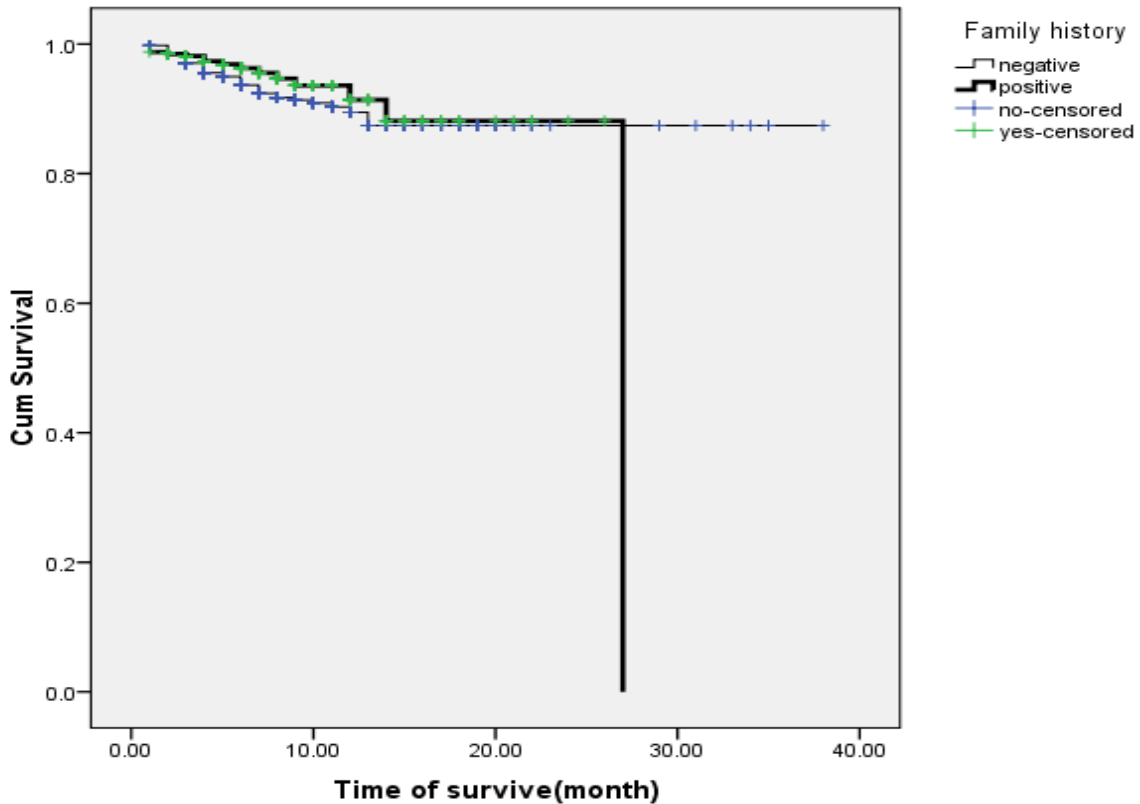


Fig. 1: Overall survival plotted for both positive and negative family history

The evaluation results showed that between the overall survival of patients with a family history of breast cancer and patients without a family history, no significant correlation existed (p -value = 0.31). The average survival rate of patients without a family history of breast cancer was 81.36 months with a standard deviation of 4.73 months and a median of 5 years (95% CI 32.92-35.29) and in patients with a positive family his-

tory of breast cancer 80.88 months of survival, with a standard deviation of 4.5 months and a median of 5 years (95% CI 23.54-26.16). Although family history can increase the chance of breast cancer, it was found that there was no significant difference in the survival of patients with a family history of breast cancer and patients with no family history.

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