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Original Research Article

Triple-Negative Breast Cancer Survival in Kurdish Patients

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Abstract: Triple negative breast cancers (TNBCs) are defined as the lack of expression of estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER-2). In this study we evaluated survival and clinicopathologic characteristics in Kurdish patients in Iran with TNBC. Between of 2009 and 2015, 58 patients with TNBC referred to Department of Radiation Oncology in Imam Reza Hospital, Kermanshah, Iran. We analyzed sex, age, type of pathology, grade tumor, laterality, stage, tumor size, overall survival and vascular, perineural, margin and skin invasion. The OS was plotted with GraphPad Prism 5 software and IBM SPSS version 19. The mean age for the patients at diagnosis was 44.29(±9.29), 100% female. Mean tumor size was 3.05 cm (range, 0.6-6 cm). Grade III was the most grades in TNBC (50%). Fifty four patients (93.1%) had invasive ductal carcinoma, one (1.7%) had invasive lobular carcinoma and 3 (5.2%) had invasive medullary. Sex, nineteen, twenty one and twelve patients were in stage I, II, III and IV, respectively. Twenty sex patients did not have vascular invasion (n=46). Twenty sex patients did not have perineuralinvasion (n=42). Forty two patients did not have margin invasion (n=50). Forty five patients did not have skin invasion (n=50).Overall survival for all of patients that the overall survival rate was 62%. Information about TNBC is low in Iran, especially in west of Iran. We need more research in this area because TNBC had a poorer overall survival than those without.
Keywords: Kurdish, Overall Survival, TNBC.

INTRODUCTION:

Breast cancer is a heterogeneous disease with a different characteristic such as age, tumor stage, lymph node involvement and pathologic grade [1]. Triple negative breast cancers (TNBCs) are defined as the lack of expression of estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER-2) [2].These cancers occur in approximately 10% to 25% of all patients with breast cancer [4].Around 6.6% of all BC cases are diagnosed in women less than 40 of age, 2.4% in women less than 35, and 0.65% in women less than 30 [3].Among all the breast cancer subtypes, TNBC is associated with a worse prognosis. It has a characteristic recurrence pattern with the peak risk of recurrence and the majority of deaths occurring in the first 3 and 5 years after the initial treatment, respectively. Comparing to endocrine sensitive tumours, the risk for the late recurrence (beyond 5 years after the diagnosis) decreases by 50% [5].In this study we evaluated survival and clinicopathologic characteristics in Kurdish patients in Iran with TNBC.

PATIENTS AND METHODS:

Between of 2009 and 2015, 58 patients with TNBC referred to Department of Radiation Oncology in Imam Reza Hospital, Kermanshah, Iran. We analyzed sex, age, type of pathology, grade tumor, laterality, stage, tumor size, overall survival and vascular, perineural, margin and skin invasion.HER2 positivity was defined as either HER2 gene amplification by fluorescent in situ hybridization or scored as 3+ by IHC. In case of HER2 2(+), fluorescent in situ hybridization was performed to determine HER2 positivity. TNBC was defined as ER (-), PR (-), and HER2 (-).The OS was plotted with GraphPad Prism 5 software and IBM SPSS version 19.

RESULTS:

The mean age for the patients at diagnosis was 44.29(±9.29), 100% female. Mean tumor size was 3.05 cm (range, 0.6-6 cm). Grade III was the most grades in TNBC (50%), following by grade I (10.3%) and II (39.7%). Fifty four patients (93.1%) had invasive ductal carcinoma, one (1.7%) had invasive lobular carcinoma and 3 (5.2%) had invasive medullary. Sex,

nineteen, twenty one and twelve patients were in stage I, II, III and IV, respectively. Location of tumor in thirty four patients was in left breast and twenty four patients were in right breast. Tumor size of nineteen patients was between 0.1 cm to 2 cm and tumor size of thirty three patients was between 2.1 cm to 5 cm and tumor size of sex patients was greater than 5 cm. Twenty sex patients did not have vascular invasion and twenty patients had vascular invasion (n=46). Twenty sex patients did not have perineuralinvasion and sixteen patients had perineuralinvasion (n=42). Forty two patients did not have margin invasion and eight patients had margin invasion (n=50). Forty-five patients did not have skin invasion and five patients had skin invasion (n=50) (Table 1).

The Figure 1 shows the OS for all of patients that the overall survival rate was 62%.

Table 1: Characteristics for the patients with triple negative breast cancer

Characteristics	n(%)	Mean±SD	Range
Age		44.29±9.29	25-68
Sex			
Female	58(100)		
Male	00(0)		
Kind of Pathology			
Invasive Ductal Carcinoma	54(93.1)		
Lobular Carcinoma	01(1.7)		
Medullary Carcinoma	03(5.2)		
Laterality			
Left	34(59)		
Right	24(41)		
Stage			
I	06(10)		
II	19(33)		
III	21(36)		
IV	12(21)		
Grade			
I	06(10.3)		
II	23(39.7)		
III	29(50)		
Tumor Size			
0.1-2	19(33)		
2.1-5	33(57)		
>5	06(10)		
Vascular			
Negative	26(57)		
Positive	20(43)		
Unknown	12		
Perineural			
Negative	26(62)		
Positive	16(38)		
Unknown	16		
Margin			
Negative	42(84)		
Positive	08(16)		
Unknown	08		
Skin			
Negative	45(90)		
Positive	05(10)		
Unknown	08		

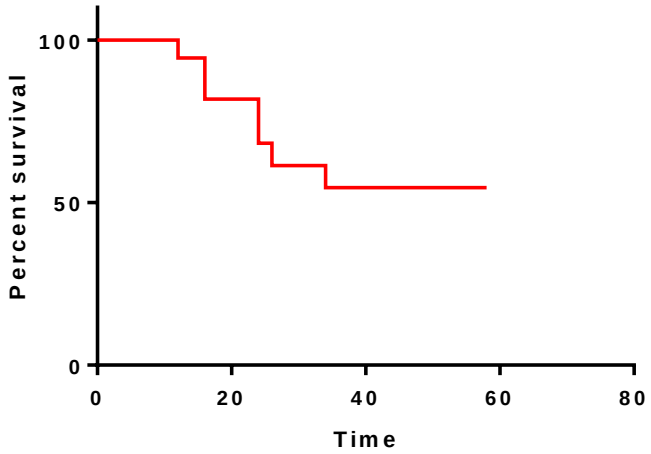

Fig 1: The 5-year overall survival for the patients with triple negative breast cancer

DISCUSSION:

Patients with TNBC had a poorer overall survival than those without. The reason for the poor prognosis of TNBC may be special biological characteristics such as younger age, higher rate of breast cancer family history, bigger tumor size, more advanced clinical stage upon diagnose, higher rate of lymph node metastasis, higher histological grade [16].A study reported that Mean age of diagnosis of TNBC was found to be 46.26 years and other study [6].This rate was found to be 47.64 and 49.99 by Liedtke et al [2]. Other study mean age of presentation for the patients was 44.5 years [7].In our study, the mean age was 44.29 years and range of 25-68 years. Our study showed that the most percentage of TNBC were invasive ductal carcinoma (93.1%) and grade III (50%) that two studies [12, 13] had results similar to our study. Most patients in this study are located in stage III. Surgical margin status after breast conserving surgery is also an established risk factor for local recurrence, specifically in-breast recurrence [11].Twenty sex patients did not have vascular invasion (n=46). Twenty sex patients did not have perineuralinvasion (n=42). Forty two patients did not have margin invasion (n=50). Forty five patients did not have skin invasion (n=50). The size of the tumor is also a well-known risk factor for recurrence [15].These patients had larger tumors so that more than two-thirds of them were greater than 2 cm [14] like our study and mean tumor size was 3.05 cm. Two publications which have reported an overall 5-year survival of between 59-77% in patients with triple negative disease [8, 9]. Other study reported that the 5-year overall survival was 77% for African-American women and 72% for Caucasian women [10] in our patients in wSest of Iran is 62%.

CONCLUSION:

Information about TNBC is low in Iran, especially in west of Iran. We need more research in this area because TNBC had a poorer overall survival than those without.

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