Acta Scientific CANCER BIOLOGY (ISSN: 2582-4473)

Volume 8 Issue 9 September 2024

Review Article

Bilateral Breast Carcinoma: Clinicopathological Details

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Received: August 08, 2024

Published: August 31, 2024

Introduction

Bilateral breast cancer ranges from 2 to 11% of the all breast cancers [1-3] with increasing incidence of 0.7 per year may be due to early diagnosis leading to improved survival [1,5,12]. Breast cancer diagnosis in opposite breast may be categorised as synchronous or metachronous on the basis of gap of duration between the diagnosis. This gap ranges from 0 to 6 months sometimes 1year [12,14]. Bilateral breast cancer holds poor survival as compared to unilateral disease [2,5,6]. Bilateral breast cancers were found to be associated with genetic mutations in 5% cases with no correlation between synchronous or metachronous [5]. The major risk factors found till date are early diagnosis due to screening, lobular histopathology, hormonal receptor positivity, and lastly multimodality treatment availability [13-17]. Bilateral breast cancer development is similar to that of unilateral one. Both factors intrinsic tumor environment as well as extrinsic factor like age, sex BMI, Harmonal receptor status etc. plays major role. The aim of this research paper is to present the clinical characteristics of a group of patients with bilateral breast cancer.

Methodology

Retrospective observation study of 14 cases of bilateral breast cancer that were registered in the OPD.Clinical data were collected from patient records including the demographics and clinical presentation. Treatment details including the surgical procedure, chemotherapy details, and radiation treatment were collected and analysed. Follow-up information was retrieved from hospital records. All patients were treated according to the presenting stage of disease.

Results

Total of 14 patients treated for bilateral breast cancer in our center were included in this study. Out of which only two patients presented with family history of cancer. Most patients were in the age group of 35 to 45 years, While age ranges from 29 to 71 years.

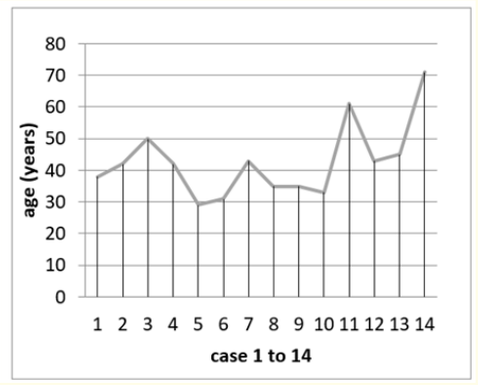

Figure 1

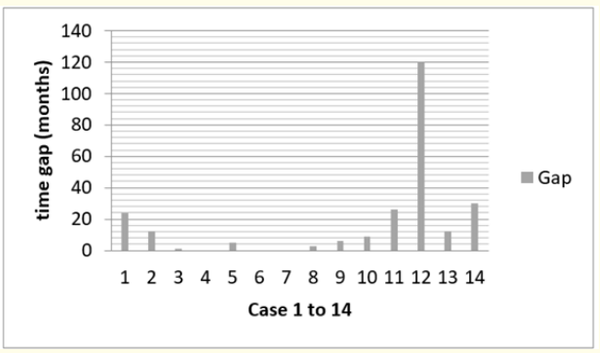

Figure 2

Synchronous Vs. Metachronous presentation were 43%vs 57% respectively. Time gap of diagnosis ranges from 0 to 10 years between both sides of breast cancer. Most of the patients belongs to locally advanced stage at the time of presentation. Most of the patients presented to the hospital OPD with the history of upfront surgery, for adjuvant treatment. Histopathologically all patients were reported to be infiltrating ductal carcinoma. Only 2 patients (14%) received Neo-adjuvant chemotherapy. Adjuvant or palliative chemotherapy was received by almost all patients except 3 whose

data is unknown. Almost all patients received Anthracycline or taxane based chemotherapy regimens. Only 4 out of 14 patients received adjuvant loco-regional radiotherapy as indicated others data unknown. Most of the patients were of left side on first time of diagnosis.

Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Family history	N	N	N	N	N	Y	N	N	N	N	Y	N	N	N
Age	38	42	50	42	29	31	43	35	35	33	61	43	45	71
Gap (Months)	24	12	01	00	05	00	00	03	06	09	26	120	12	30
Synchronous/Metachronous	M	M	S	S	S	S	S	S	M	M	M	M	M	M
Site 1st/2nd	R/L	L/R	R/L	L/R	L/R	R/L	R/L	L/R	R/L	L/R	R/L	L/R	L/R	L/R
Stage gp1	IV	IV	IIIB	IV	IV	IV	IV	IV	IIIA	IV	IV	IV	IIA	IV
Stage gp2	IV	IV	IIB	IV	IIIB	IV	IV	IV	IIIA	IV	IV	IIIA	IIB	IIIB
Radiotherapy	N	N	N	N	N	N	Y	N	Y	N	N	Y	Y	N
Neoadjuvant chemotherapy	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N
Adjuvant chemotherapy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Surgery	N	N	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	Y
ER/PR	-/-	-/-	UK	+/-	-/-	+/+	UK	+/+	+/-	UK	UK	-/-	-/-	+/-
HER 2 neu	-	+	UK	+	-	+	UK	-	+	UK	UK	-	-	-
DFS (Months)	24	18	04	18	07	21	04	27	15	13	30	120	17	46

Table 1

All post-mastectomy patients in whom radiotherapy was indicated received radiation therapy to the chest wall and ipsilateral supraclavicular fossa to a dose of 40Gy in 15 fractions over a period of 3 weeks with cobalt 60 by 2 tangential fields and one direct SCF field as per indicated. 21% patients were of TNBC while ER/PR status and Her 2neu were positive in 28% of cases. Few patients hormonal status can't be retrieved. Disease free survival ranges from months to years but due to default of majority patients overall survival can't be reported properly.

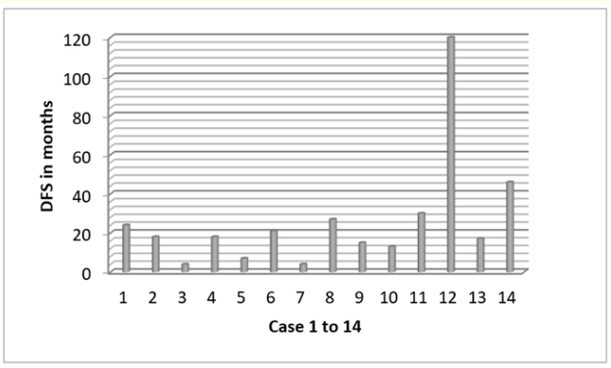

Figure 3

Discussion

The proportion of bilateral breast cancer appears to be increasing [1-3] may be due to better screening so early diagnosis as well as effective treatment modalities in the form radiotherapy, chemotherapy, hormonal and targeted therapies across the world. In our study, the proportion of patients presenting in age group of 35 to 45 is maximum approx. 9 out of 14 while ranging from 29 to 71. Early age disease is usually aggressive in nature as compared to elderly age group. Verkooijen., *et al*. [18] showed in their study that younger women have high risk of metachronous bilateral breast cancer than older one. The presentation is almost always with a palpable lump or ulcer in opposite breast with history of surgery, turn out to be cT4 on evaluation. Only one patient presented with positive family history of malignancy. Bilateral breast cancer found to be 5% in BRCA1 and BRCA2 positive cases. Patients surviving after multimodality treatment in the form of surgery, radiotherapy chemotherapy and hormonal therapy according to the positivity of ER/PR/Her2neu. Baretta., *et al*. [19] found TNBC with worse prognosis, then ER/PR positive. Most patients in this study were hormonal positive with Triple negative in only 3 cases. Role of proper diagnostic work up recommended in case of locally advanced breast carcinoma. PETCT scan highly recommended before starting NACT in T4 cases. NACT should be given in all locally advanced cases, upfront surgery is not recommended in locally advanced cases. Metachronous versus synchronous presentation found to be

57% vs 43% respectively if duration of gap is less than 6 months. Sim., *et al*. reported synchronous breast cancer survive lesser than metachronous. Most patients in this study were affected on left side of the breast on first time cancer diagnosis. Only 4patients received adjuvant radiotherapy. Radiotherapy plays vital role in treatment of breast cancer cases for better local control thence decreasing systemic spread. Large target volume in Synchronous bilateral breast cancer irradiation require better tumor control along with better normal structure dose constraints by using advanced radiation techniques like IGRT, VMAT, IMRT, Helical Tomotherapy.

Conclusion

Bilateral breast cancer should be considered as separate identity specially synchronous one, as it needs special consideration in treatment by choosing chemotherapy regimen, radiotherapy doses techniques, hormonal drugs etc.

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