

Male breast cancer: clinic-epidemiological characteristics of 1,189 Brazilian patients

Luiz Claudio Santos Thuler^{1,2}, Anke Bergmann^{3,4}

¹Clinical Research and Technology Incorporation Coordination by Instituto Nacional de Câncer José Alencar Gomes da Silva (INCA). Rio de Janeiro (RJ), Brazil. ²Neuroscience Program - Federal University of Rio de Janeiro State (UNIRIO). ³Coordination of Education by Instituto Nacional de Câncer José Alencar Gomes da Silva (INCA). Rio de Janeiro (RJ), Brazil. ⁴Masters Program in Rehabilitation Sciences - UNISUAM University
Author of Correspondence: Luiz Claudio Santos Thuler - E-mail: lthuler@inca.gov.br

BACKGROUND

Male breast cancer (MBC) is a rare disease accounting for less than 1% of all breast cancers and 1% of all male malignancies¹.

In Brazil, in the last decade (2001 to 2010), data from the Mortality Information System operated by Brazil's Ministry of Health have shown that only 0.97% of 106,425 breast cancer deaths were in men. This percentage varies widely between 0.85 in the first triennium (2001-2003) to 1.12 in the last one (2008-2010), representing a relative increase of 31%².

Incidence data is not available for the entire country. However, data from the Sao Paulo Cancer Registry concerning different periods of time has shown that breast cancer adjusted incidence rates per 100,000 males increased virtually 3 times in the last two decades: 0.5 (1988), 0.9 (1993)³, 0.97 (1997-1998)⁴, 1.21 (2001-2005)⁵, and 1.4 (1997-2008)⁶.

These cancers are biologically different from carcinomas of the female breast⁷. However, little is known about its biological and histopathological features, epidemiology, causes, prognosis, ideal management and treatment.

This study was carried out to examine the epidemiological and clinical features of male breast cancer patients diagnosed and treated in Brazil. Specialist health professionals and students in cancer control.

MATERIAL AND METHODS

A retrospective cohort study was accomplished using information from Hospital Records of Cancer in Brazil, obtained through the System for Computerization of data from the Cancer Hospital Records (Brazilian National Cancer Integrator System) and data from Hospital Record of Cancer in the State of São Paulo (Oncocentro Foundation of São Paulo).

During the period of time between 2000 and 2009 it were included men with breast cancer (International Classification of Diseases – Oncology – 3rd. Edition – ICD-O C50), whose planning, treatment and follow-up were made in a cancer hospital.

Patients were followed up until the end of first course of treatment.

The following variables were collected: age at diagnosis, marital status, race/skin color, years of study, consumption of alcohol, tobacco use, region of residence, year of diagnosis, TNM clinical stage, first-course therapy and status at the end of first course of treatment.

A descriptive analysis of the study population was performed through measures of central tendency and dispersion to the age variable, and determination of frequency distribution to categorical variables, with intervals of 95% of confidence and p values. It was used a statistical program SPSS, version 21.0.

This study was approved by the Brazilian National Institute of Cancer (INCA) of Ethics and Research Committee (CAAE – 0104.0.007.000-11).

RESULTS

A total of 1,189 male patients with breast cancer were registered in the 10 years period (mean 119 cases per year; minimum 98 – maximum 161).

The mean age at diagnosis was 59.6 years (± 13.6). The percentage of advanced stage (stage $\geq 2B$) cancers ranged from 54.2 in the year 2005 to 71.1 in 2000.

The baseline demographics and clinical characteristics of study population are presented in Table 1 and treatment modality is shown in Figure 1 and Table 2.

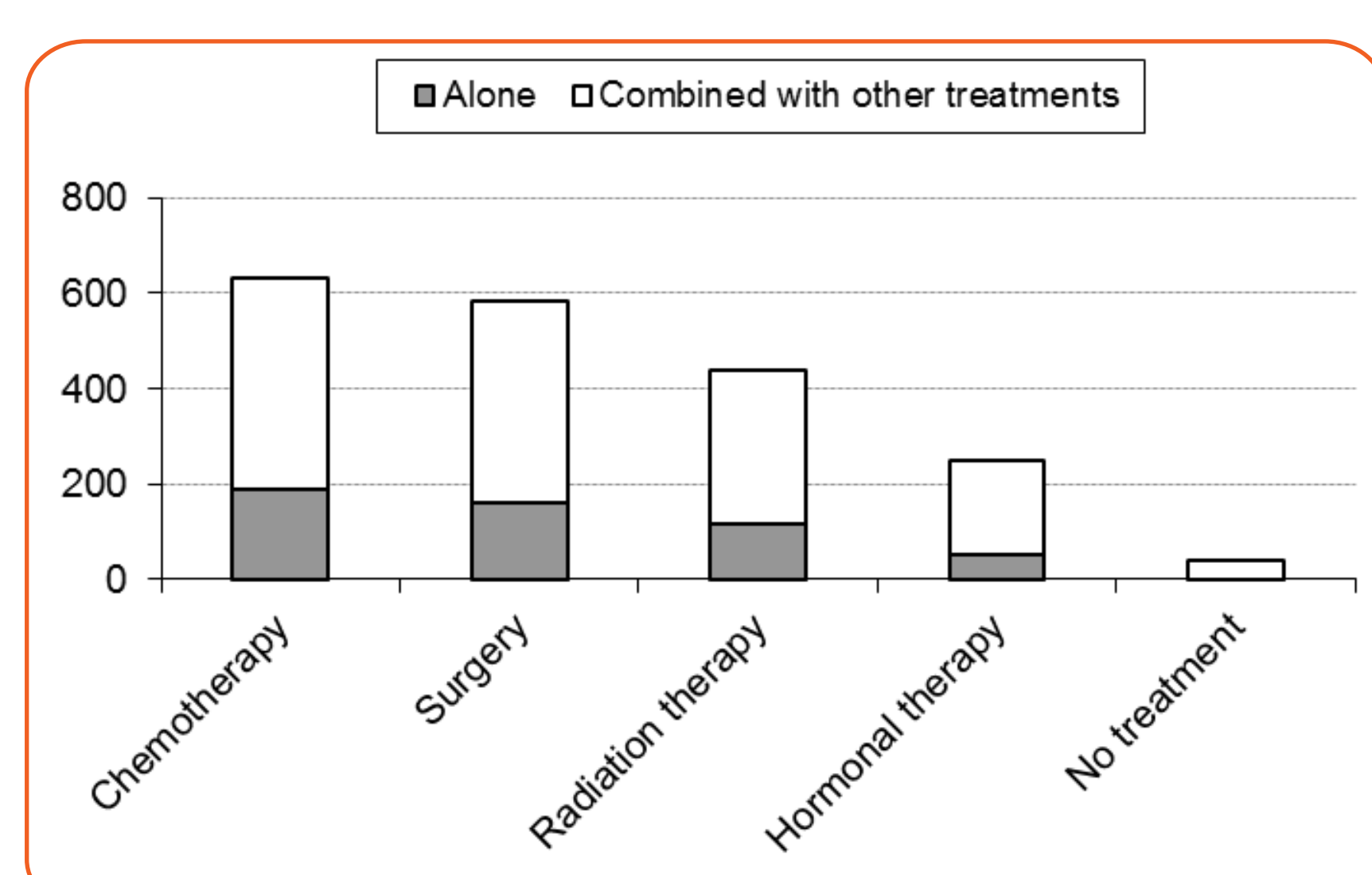


Figure 1. First course cancer treatment

Table 1. Baseline demographics and clinical characteristics of study population

Demographic Characteristics	No. of Patients	%
Race		
White	443	65.7
Nonwhite	231	34.3
Alcohol drinking		
Yes	96	24.6
No	294	75.4
Family history of breast cancer		
Yes	166	45.4
No	200	54.6
Tumor status		
T0	19	2.3
T1	182	22.1
T2	279	33.9
T3	91	11.1
T4	251	30.5
Axillary lymph node status		
N0	376	45.8
N1	300	36.5
N2	120	14.6
N3	25	3.0
TNM Stage		
Initial (stages I & II)	510	52.6
Advanced (stages III & IV)	459	47.4
Histological type		
Invasive ductal carcinoma	994	83.7
Other	194	16.3

Table 2. Response classification of male breast cancer according to the first course cancer treatment (n= 722*)

Stage	First course treatment received**	N	Adequate response*** N (%)	IC95%	Inadequate response*** N (%)	IC95%
Stage I (n= 102)	Surgery	49	48 (98.0)	89.3 – 99.6	1 (2.0)	0.4 – 10.7
	Chemotherapy	34	30 (88.2)	73.4 – 95.3	4 (11.8)	4.7 – 26.6
	Hormonal therapy	19	18 (94.7)	75.4 – 99.1	1 (5.3)	0.9 – 24.6
	Radiation therapy	46	46 (100.0)	92.3 – 100	0 (0.0)	0 – 7.7
	Total	102	96 (94.1)	87.8 – 97.3	6 (5.9)	2.7 – 12.2
Stage II (n= 282)	Surgery	160	155 (96.9)	92.9 – 98.7	5 (3.1)	1.4 – 7.1
	Chemotherapy	148	141 (95.3)	90.6 – 97.7	7 (4.7)	2.3 – 9.4
	Hormonal therapy	65	62 (95.4)	80.5 – 95.0	3 (4.6)	1.6 – 12.7
	Radiotherapy	117	115 (98.3)	94.0 – 99.5	2 (1.7)	0.5 – 6.0
	Total	282	272 (96.5)	93.6 – 98.1	10 (3.5)	1.9 – 6.4
Stage III (n= 243)	Surgery	131	108 (82.4)	75.0 – 88.0	23 (17.6)	12.0 – 25.0
	Chemotherapy	151	118 (78.2)	70.0 – 84.0	33 (21.9)	16.0 – 29.1
	Hormonal therapy	60	48 (80.0)	68.2 – 88.2	12 (20.0)	11.8 – 31.8
	Radiotherapy	122	100 (82.0)	74.2 – 88.0	22 (18.0)	12.2 – 25.8
	Total	243	200 (82.3)	77.0 – 87.0	43 (17.7)	13.4 – 23.0
Stage IV (n= 95)	Surgery	21	10 (47.6)	28.3 – 67.6	11 (52.4)	32.4 – 71.7
	Chemotherapy	63	23 (36.5)	25.7 – 49.0	40 (63.5)	51.2 – 74.3
	Hormonal therapy	20	8 (40.0)	21.9 – 61.3	12 (60.0)	38.7 – 78.1
	Radiotherapy	31	16 (51.6)	34.8 – 68.0	15 (48.4)	32.0 – 65.2
	Total	95	41 (43.2)	33.7 – 53.2	54 (56.8)	46.8 – 66.3
Total (n= 722)	Surgery	361	321 (88.9)	85.3 – 91.8	40 (11.1)	8.2 – 14.7
	Chemotherapy	396	312 (78.8)	74.5 – 82.5	84 (21.2)	17.5 – 26.6
	Hormonal therapy	164	136 (82.9)	76.4 – 87.9	28 (17.1)	12.1 – 23.6
	Radiotherapy	316	277 (87.7)	83.6 – 90.8	39 (12.3)	9.1 – 16.3
	Total	722	609 (84.4)	81.5 – 86.8	113 (15.7)	13.2 – 18.5

*Totals here are less than totals for the other characteristics due to missing values

**Treatment modalities were considered alone or combined

***Adequate response: partial remission, stable disease, and complete response; Inadequate response: progressive disease, relapsed disease or death;

CONCLUSION

A total of 1,189 male patients was studied. The mean age at diagnosis was 59.6 years. According to the TNM classification, tumors was often diagnosed at an advanced stage (47.4%). The inadequate response rate was 15.9% and 7.4% of patients deceased after the first course of treatment.

REFERENCES

- White et al. male breast carcinoma: increased awareness needed. Breast Cancer Research, 2011. 13:219.
- Ministério da Saúde, Departamento de Informática do SUS (DATASUS) Sistema de Informação de Mortalidade. 2013. Available: <http://www.datasus.gov.br> Consulta em 24 de abril de 2013.
- Mirra AP. Incidência de câncer no Município de São Paulo, Brasil, 1983-1988-1993. Tendência no período 1969-1993. São Paulo: Registro de Câncer de São Paulo; 1998.
- Instituto Nacional de Câncer (INCA); Ministério da Saúde. Câncer no Brasil: dados dos registros de base populacional, vol 3. Rio de Janeiro (Brasil): INCA; 2003.
- Instituto Nacional de Câncer (INCA); Ministério da Saúde. Câncer no Brasil – Registros de base populacional. <http://www.inca.gov.br/cancermobrasil/2010/docs/SaoPaulo/P437-440.pdf>
- Michels FAS, Simon A, Sconza IAC, Veneziano DB, Latorre MRDO. Câncer em São Paulo 1997-2008. Incidência, Mortalidade e Tendência de Câncer no Município de São Paulo. São Paulo, S.P. – Registro de Câncer de São Paulo, 2011. URL http://dl.dropboxusercontent.com/u/43888803/Publicacao_RCBP_Completo.pdf
- Shaban AM, Ball GR, Brannan RA, Cserni G, Di Benedetto A, Dent J, Fulford L