Profile and cancer prognosis among patients enrolled in the Brazilian National Institute of Cancer according to HIV testing and HIV status

Mariana Pinto Ferreira[1] (DO), Fabio E. Leal[1], Luiz C. Thuler[2], Marcelo Alves Soares[1,3], Anke Bergmann[4], Esmeralda A. Soares[1]

1.Programa de Oncovirologia, Instituto Nacional de Câncer, Rio de Janeiro, RJ, Brazil; 2. Programa de Epidemiologia Clínica, Instituto Nacional de Câncer, Rio de Janeiro, RJ, Brazil.
3. Departamento de Genética, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil; 4. Programa de Carcinogênese Molecular, Instituto Nacional de Câncer, Rio de Janeiro, RJ, Brazil;

INTRODUCTION

Cancer has been associated with HIV infection since the beginning of the HIV/AIDS epidemic and is currently the main cause of morbidity and mortality in HIV$^+$ people. Since the initiation of antiretroviral therapy, cancer incidence rates in these individuals have changed. AIDS-defining cancers have decreased, while non-AIDS-defining cancers have increased with age. thereby it is important to understand the impact of HIV on the prognosis of cancer in patients.

OBJECTIVE

The present study aims to evaluate the characteristics and prognosis of patients according to the HIV serological testing and HIV status.

METHODOLOGY

This is a retrospective cohort study that included patients with confirmed diagnosis of cancer from the Brazilian National Institute of Cancer (INCA) between 2000 and 2014. The study subjects were hierarchically grouped in the total eligible population, the HIV tested population and the HIV-positive population. The socio-demographic and HIV serological testing data and the information related to cancer treatment have been collected through two INCA databases. The patients that did not have any information on cancer treatment in the database were excluded from the study. We assessed the current situation regarding HIV diagnosis in the institution and main form of identification of HIV+ and HIV- patients was the serological testing performed at INCA. A second way used for this identification was by assessing two national databases from the Ministry of Healthy related to HIV monitoring, SINAM and SISCEL. We describe the prevalence of HIV among cancer cases registered at INCA according to the defining and non- AIDS defining cancers.

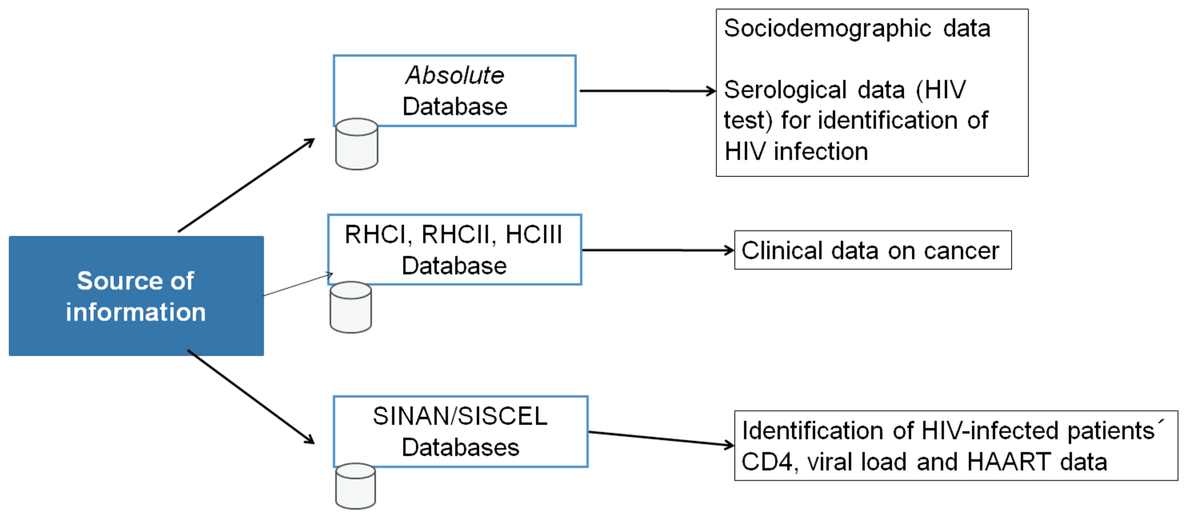

Figure 1. Source of information flowchart

RESULTS

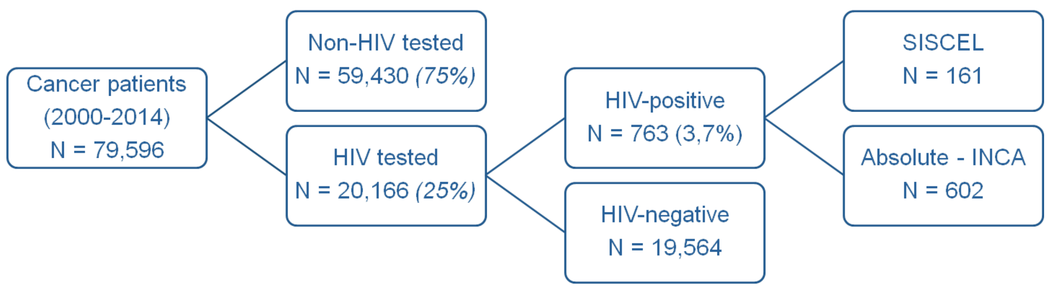

Figura 2 . Population identification flowchart

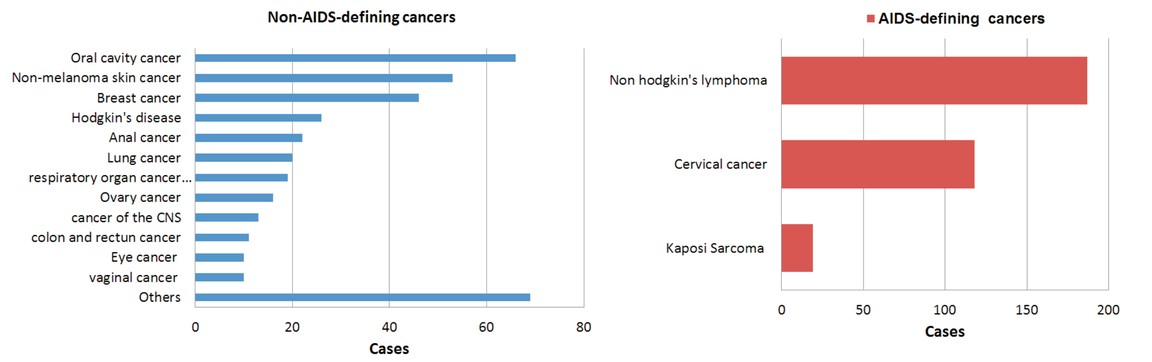

Chart 1. Distribution of the most frequent cancers in HIV-positive patients at INCA

Table 1. Characteristic of HIV tested and untested population in Brazilian National Institute of Cancer (INCA)

Characteristics	HIV-tested population *N (%)*	HIV-untested population *N (%)*	*P value*
Total	**20,166 (100)**	**59,430 (100)**	
Age at registration			<0.001
Mean (Min – Max)	52 (18-101)	58 (18-103)	
Year of registration			<0.001
2000-2004	8,913 (44.2)	19,331 (35)	
2005-2009	6,709 (33.2)	21,001(36)	
2010-2014	4,544 (22.6)	16,665 (29)	
Gender			<0.001
Male	6,650 (33)	21,404 (36)	
Female	13,516 (67)	38,026 (64)	
Marital status			<0.001
Married/with partner	9,451(47.4)	28,809(50.8)	
Single/ Without Partner	10,375 (51.9)	27,424(48.4)	
Others	187 (0.7)	436 (0,8)	
Missing*	153	2,761	
Race			<0.001
White	12,252 (61.5)	38,870 (65,6)	
Nonwhite	7660 (38.5)	20,377 (34.4)	
Missing*	254	183	
Education			<0.001
Illiterate	1,588 (7.9)	4,694 (8.3)	
1-8 years of study	16,679 (83.3)	46,319 (82)	
More 9 years of study	1,776 (8.8)	5,448 (9.7)	
Missing*	133	2,969	
Tabacco use			0.08
Current/fomer	9,111 (47.6)	26,954 (48.3)	
None	9,686 (52.4)	29,337 (51.7)	
Missing*	1,369	3.133	
Alcohol use			<0.001
Current/fomer	5,376 (29.4)	20,002 (36.5)	
None	12,911 (70.6)	34796 (63.5)	
Missing*	1,879	4,632	

* Missing values were not included in the calculations of the percentages or in the chi-square test *p*-values

Table 2. Characteristic of HIV-infected and HIV-uninfected patients with breast cancer and untested population in Brazilian National Institute of Cancer (INCA)

Characteristics	HIV –infected patients, *N (%)*	HIV uninfected patients, *N (%)*	*P value*
Total	**43 (100)**	**107 (100)**	
Age at registration	50 (31-73)	51 (27-78)	0.58
Mean (Min – Max)			
Clinical stage			0.97
Stage I	8 (18)	21 (19.6)	
Stage IIA	6 (14)	15 (14)	
Stage IIB	12 (27.9)	24 (22.4)	
Stage IIIA	3 (7)	11 (10.3)	
Stage IIIB	10 (23.3)	23 (21.5)	
Stage IIIC	1 (2.3)	5 (4.7)	
Stage IV	3 (7)	8 (7.5)	
BMI			0.37
Low weight	2 (22,2)	6 (8,0)	
Normal	2 (22,2)	22 (29,3)	
Overweight	4 (44,4)	25 (33,3)	
Obesity	1 (11,2)	22 (29,3)	
Missing*	34	29	
Marital status			0.13
Married/with partner	11 (26.8)	52 (48.6)	
Single/ Without Partner	30 (73.2)	55 (51.4)	
Missing*	2	-	
Race			0.43
White	25 (59.5)	59 (56.2)	
Nonwhite	17 (40.5)	46 (43.8)	
Missing*	1	2	
Education			0.78
Illiterate	1 (2.4)	4 (3.8)	
1-8 years of study	37 (90.2)	92 (85.9)	
More 9 years of study	3 (7.3)	11 (10.3)	
missing	2	-	
Tabacco use			0.25
Current/fomer	12 (30.7)	38 (35.8)	
None	27 (69.2)	68 (64.2)	
Missing*	4	1	
Alcohol use			0.45
Current/fomer	9 (23.7)	22 (21,2)	
None	29 (76.3)	82 (78.8)	
Missing*	5	3	
History breast cancer in family			0.23
Yes	3 (7.1)	7 (6.3)	
None	39 (92.9)	100 (93.7)	
Missing*	1	-	

* Missing values were not included in the calculations of the percentages or in the chi-square test *p*-values

PERSPECTIVES

- To complete the follow-up for patients with breast cancer.
- Survival analysis.
- To start collecting the cancer follow-up data on the other most prevalent types of cancer in the HIV+ population.
- We next plan to collect CD4 T-cell counts and HIV viral load information from SISCEL database.

Projeto Gráfico: Setor de Edição e Informação Técnico-Científica / INCA

CAPES CNPq FAPERJ INCA SUS MINISTÉRIO DA SAÚDE