



Incidence of Penile Cancer in the State of the Espírito Santo in the Period 2000-2018

Narelle de Jesus Parmanhani^{1*}; Amanda Cristina Martins Reis Silva²; Adilson Moreira Valory Júnior³

¹Nurse, Coordinator of studies at the Center for Clinical Research in Oncology, Evangelical Hospital of Cachoeiro de Itapemirim, ES, Brazil.

²Nurse, Resident in Cancer Care, Evangelical Hospital of Cachoeiro de Itapemirim, ES, Brazil.

³Undergraduate Medical Student, Faculdade Multivix - Cachoeiro de Itapemirim, ES, Brazil.

***Corresponding Author(s): Narelle Parmanhani**

Nurse, Coordinator of studies at the Center for Clinical Research in Oncology, Evangelical Hospital of Cachoeiro de Itapemirim, ES, Brazil.

Email: narelleparmanhani@hotmail.com

Abstract

Objective: Among the various forms of cancer is penile cancer, considered as a rare neoplasm and affects 1/100,000 men in developed countries. In Brazil, these tumors correspond to 2% of malignant neoplasms in men, being five times more prevalent in the North and Northeast regions compared to other regions. Aiming to write the incidence of penile cancer in the state of Espírito Santo (ES) in the period 2000-2018.

Materials and method: This is an ecological study of a descriptive, quantitative and exploratory character, as it quantifies and describes the Incidence of Penile Cancer in the State of Espírito Santo. Information regarding the years 2000 to 2018 was collected through the Hospital Cancer Registry System (SisRHC), and subsequently the data were treated in Microsoft Office Excel.

Results: Despite being a pathology that has a small incidence, according to the Mortality Atlas (2020), between 2015 and 2018 it presented more than 400 deaths / year in Brazil, corresponding to 0.06% of deaths due to neoplasia, and each year, 1600 men have their penis amputated due to this pathology.

Conclusion: In view of the analysis carried out in this study, it is noted that it is necessary to intervene with educational and preventive actions in order to generate effective strategies for improving public health policies, as investing in this item means reducing the percentage of new cases and ensuring better quality of life for men affected by penile cancer.

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Keywords: Penile neoplasms; Incidence and descriptive epidemiology.



Introduction

Among the various forms of cancer is penile cancer, considered a rare neoplasm and affects 1/100,000 men in developed countries [4]. Classified an insidious disease that affects the main mind men in third old age, although it may affect younger individuals, since approximately 22% of cases are registered in patients under the age of 40. In Brazil, these tumors correspond to 2% of malignant neoplasms in men, being five times more prevalent in the North and Northeast regions compared to other regions [3].

Brazil-level data show that over the 18 years of analysis there were 9,479 cases of penile cancer across the territory. The state of São Paulo leads the index with 1,731, followed by Minas Gerais with 1,089 and Bahia with 905. Well below these numbers, we have Pernambuco (557), Paraná (506), Rio Grande do Sul (448), Pará (447), Rio de Janeiro (437), Maranhão (422) and Ceará (407). With a small variation we have Piauí (347), Paraíba (344), Alagoas (301), Espírito Santo (238), Santa Catarina (235), Rio Grande do Norte (212), Amazonas (184), Tocantins (166) and Mato Grosso (126). With less than 100 cases, we have Mato Grosso do Sul (87), Distrito Federal (85), Rondônia (71), Sergipe (67), Goiás (33), Acre (16), Roraima (11) and Amapá (7) [6]. We believe that the data is very underreported, as states with large geographic and population dimensions have registered very few cases.

The most common types of cancer of the penis are squamous cell carcinoma - currently most cases (95%) - which can affect any part of the penis, melanoma, which corresponds to less than 2% of cases and begins in melanocytes, and adenocarcinoma, which is a very rare type that originates in the sweat glands of the skin of the penis, and finally sarcoma, which originates from blood vessels, connective tissue cells or from blood vessels [7].

Penile cancer also has a high mortality, which is due to the delay in seeking treatment and also the difficulty of accessing the health service. Commonly, individuals who seek health services present the disease in an advanced stage and evolve, on average, from two to three years to death. This high mortality can also be explained by the precarious socioeconomic conditions and the difficulty in accessing health services [1].

In addition, the main risk factors for this type of cancer are related to late postectomy, viral infections such as HPV, poor hygiene of the glans, sexually transmitted diseases, history of penile excoriations, among other external factors, such as smoking and the multiplicity of diseases and sexual partners [7].

Penile cancer is common in regions with a high prevalence of human papilloma virus (HPV), which may account for the variation in incidence, as the worldwide HPV prevalence varies considerably. The annual age-adjusted incidence is 0.7-3.0/100,000 men in India, 8.3/100,000 men in Brazil and even higher in Uganda, where it is the most commonly diagnosed male cancer. The majority of knowledge about penile cancer comes from countries with a high incidence rate [2].

In this perspective, it is necessary to search for strategies that integrate the various conditions that make up the complex causality of penile cancer, valuing the socioenvironmental aspects

of the health-disease process. Regarding the problem, the spatial analysis techniques have emerged as important tools in understanding the geographical distribution of the disease, allowing investigate possible correlations between the main causal factors, providing subsidies for risk stratification and better addressing the prevention, diagnostic and disease control [1].

In this sense, the present study is justified by the need to understand the current panorama of penile cancer in order to generate effective strategies for improving public health policies. Thus, the objective was to describe the incidence of penile cancer in the State of Espírito Santo in the period 2000-2018 [8].

Method

This is an ecological, descriptive, quantitative and exploratory study, as it quantifies and describes the Incidence of Penile Cancer in the State of Espírito Santo.

The data were extracted from the Integrator of the Hospital Cancer Registry (RHC), where the variables were collected, age group, clinical stage, histological type, first treatment received, evaluation of the tumor response after first treatment received, education and marital status. Information about the number of patients diagnosed in the state of Espírito Santo (ES), between the years 2000 to 2018, was analyzed. Data were organized using Microsoft Excel 2019, and were described using descriptive epidemiology through tables and graphs.

The study respects the ethical precepts of research with human beings set out in resolutions 466/12 and 510/16 and does not require approval from the Research Ethics Committee, as it deals with secondary public domain data.

Results

In the period analyzed, Espírito Santo registered 30,618 diagnoses of malignant neoplasms in men, of which, 238 cases of penile cancer, distributed as follows: 2000 (4); 2001 (6); 2002 (12); 2003 (13); 2004 (10); 2005 (15); 2006 (12); 2007 (7); 2008 (15); 2009 (15); 2010 (24); 2011 (7); 2012 (20); 2013 (16); 2014 (11); 2015 (18); 2016 (18); 2017 (13) and 2018 (2) [6].

According to the analysis of the incidence of this neoplasm, there were more cases in the year 2010 and 2012, with a curiosity that in the year 2011 a considerable drop in the registration of cases was identified. In the opposite direction, the years 2000 and 2001 had the lowest incidence. The year 2018 is still not very relevant, since, in the vast majority of institutions, INCA's SisRHC has a 2-year *delay*, and therefore, the 2018 data will be fully accounted for at the end of this current year.

Despite being a pathology with a low incidence and not being included in the annual estimates of cancer incidence in Brazil, it is responsible for a considerable number of deaths. According to the atlas mortality [5] in the years 2015 to 2018 showed more than 400 deaths/year in Brazil, corresponding to 0.06% of cancer deaths .

According to Table 1, we analyzed the clinical characteristics and social cases of Penis Neoplasm in ES between the years analysis.

Table 1: Clinical and social characteristics of cases of Penile Neoplasm in ES from 2000 to 2018.

| Variables | N = 238 | % |
|---|---------|-------|
| Age group, n (%) | | |
| 20 to 29 years | 5 | 2.10 |
| 30 to 39 years | 20 | 8.40 |
| 40 to 49 years | 54 | 22.69 |
| 50 to 59 years | 56 | 23.53 |
| 60 to 69 years | 46 | 19.33 |
| 70 to 79 years | 37 | 15.55 |
| 80 years and over | 20 | 8.40 |
| Clinical staging, n (%) | | |
| 0 | 1 | 0.42 |
| 1 | 8 | 3.36 |
| 2 | 7 | 2.94 |
| 3 | 10 | 4.20 |
| 4 | 21 | 8.82 |
| No Information | 191 | 80.25 |
| Histological type, n (%) | | |
| Squamous cell carcinoma | 171 | 71.85 |
| Squamous cell carcinoma | 44 | 18.49 |
| Squamous cell carcinoma "in situ" | 6 | 2.52 |
| Other types | 17 | 7.14 |
| First treatment received, n (%) | | |
| Surgery | 167 | 70.17 |
| Surgery + chemotherapy | 11 | 4.62 |
| Surgery + chemotherapy + radiation therapy | 4 | 1.68 |
| Surgery + radiotherapy | 9 | 3.78 |
| Hormone Therapy | 1 | 0.42 |
| Chemotherapy | 5 | 2.10 |
| Chemotherapy + radiation therapy | 8 | 3.36 |
| Radiotherapy | 13 | 5.46 |
| none | 11 | 4.62 |
| Others | 9 | 3.78 |
| Assessment of tumor response after first treatment received, n (%) | | |
| Progressing disease | 13 | 5.46 |
| Stable disease | 24 | 10.08 |
| Partial remission | 5 | 2.10 |
| Complete remission | 42 | 17.65 |
| Out of therapeutic possibilities | 2 | 0.84 |
| Death | 56 | 23.53 |
| No Information | 96 | 40.34 |

| Education level, n (%) | | |
|---|-----|-------|
| None | 39 | 16.39 |
| Elementary education (complete or incomplete) | 102 | 42.86 |
| High school | 14 | 5.88 |
| Higher education | 1 | 0.42 |
| Not informed | 82 | 34.45 |
| Marital status, n (%) | | |
| Married | 131 | 55.04 |
| Not married | 45 | 18.91 |
| Widower | 16 | 6.72 |
| Judicially separated | 16 | 6.72 |
| Consensual union | 3 | 1.26 |
| No Information | 27 | 11.34 |

Source: Prepared by the authors. RHC / INCA INTEGRATOR [6].

Of the 238 cases, 23.53% were in the 50 to 59 age group, followed by 22.69% in the 40 to 49 age group. There was a predominance in the variable level of education, secondary and elementary education (42.86%) followed by the uninformed (34.45%) and no training with 16.39%. The occurrence of cases occurred mainly in married (55.04%) and single (18.1%) patients. Regarding treatment, we took into account the variables clinical stage, histological type, first treatment received and evaluation of the tumor response. The prevalent clinical staging was EC 4 (8.82%) and EC 3 (4.20%), the histological type prevailing squamous cell carcinoma (71.85%) and squamous cell carcinoma (18.49%). As for the treatment received, only surgery corresponds to (70.17%) and surgery + chemotherapy (4.62%). The number of deaths represents 23.53%, in contrast with 17.65% with complete remission.

Discussion

In view of the analysis described, penile cancer has a small incidence (0.78%) in the state of Espírito Santo over the years 2000 to 2018. It may seem little, but when we analyze that most diagnoses happen at an advanced stage and that the treatment greatly impacts the patient's living conditions, little represents a lot.

It was observed that regarding clinical diagnosis, squamous cell carcinoma represents the highest rate (71.85%), as well as advanced staging (EC 4 - 8.82%), which is a determining factor for an unfavorable disease evolution.

According to the Side by Side Institute (LAL) to weigh rare in European countries and North America, this type of tumor is a condition common in many African countries, South American and Asian as well [8]. According to the LAL Scientific Committee, 1,600 men have to amputate the penis totally or partially because of cancer each year. Ninety percent of the cases come from the Unified Health System (SUS). This suggests that penile cancer tends to affect the poorest, uncircumcised and with poor hygiene habits.

Thus, we realized with the study that this pathology is rarely addressed in health campaigns in the state of Espírito Santo and also in Brazil, and frequently the diagnosed patients are fragile and distressed with the diagnosis, prognosis and life changes, mainly sexual [3].

It should be borne in mind that tracking the state of Espírito Santo and Brazil should reach predominantly the age group 50-59 years old and that public health policies are aimed at this group need improvements; starting from the principle of one integrated approach based on basic health care, to carry out periodic examinations that can detect this type of cancer early, and thus guarantee an effective clinical intervention providing a better quality of life.

Conclusion

In view of the analysis carried out in this study, it is noted that it is necessary to intervene with educational and preventive actions in order to generate effective strategies for improving public health policies, as investing in this item means reducing the percentage of new cases and ensuring better quality of life to men affected by penile cancer.

It is known that social determinants (age, sex and hereditary factors) are some of the risk factors for the development of penile cancer, however, there are those related to behavioral issues, lifestyle and socio - cultural factors that permeate life of the man with cancer.

As it is a stigmatizing diagnosis, it is necessary to consider the possibility of underreporting, which makes the diagnosis late, the patient is poly and multimodal treated, the clinical stage is more advanced, the surgeries are mutilatory and the evolution to death reaches m rising levels.

There is still a lot to discuss and reflect on the subject, reducing limiting beliefs and breaking taboos, which corroborates the need for prevention in primary care, using promotion and continuing education in men's health for early detection and/or treatment of injuries, increasing the chances of healing and reducing the impacts of biopsicosocioespirituais treatment.

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