Head and Neck Squamous Cell Carcinoma at diagnosis: a description of public and private cohorts in Brazil regarding tumor location, staging and mortality from 2016 – 2018

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Background

- Head and Neck Cancer (HN) is significantly more prevalent in Central and South America[1], being Brazil the country with the highest incidence rates in the region[2] and the country with the population at the highest risk of pharynx cancer in the world[3]
- Limited data from GLOBOCAN and National Cancer Institute (INCA) restricts the health care professionals of staging information and characteristics in patient populations depending on their health care assistance (public or private)
- In Brazil, two healthcare systems coexist: 1) public healthcare system (Sistema Único de Saúde [SUS]) that covers all individuals in Brazilian territory and is financed with governmental taxes and social contributions; and 2) supplementary (private) healthcare system, which is supplementary to SUS, and is composed by a system of private health insurances, financed by employers and/or out of pocket. Currently, approximately 80% of the population is covered exclusively by the public healthcare system[4]
- This study aimed to describe demographic and clinical characteristics of Head and Neck Squamous Cell Carcinoma (HNSCC) in public and private cohorts in Brazil

Methods

- This is a secondary database analysis including patients ≥18 years diagnosed with HNSCC from public and private cohorts between 2016 and 2018. In the private cohort, data collection was performed through medical chart review, while in the public cohort data was drawn from the public hospital national cancer registry (RHC) database
- The data from the public sector is a nationally representative sample
- For the private sector there is no unified national registry. Therefore, the data collected for the private cohort is limited to represent the patient population from 6 private oncological clinics that belong to Oncoclinicas, the institution with the greatest geographical distribution in the country

Figure 1. Sample selection flowchart for patients with confirmed HNSCC diagnosed from 2016 to 2018 in (A) private cohort, (B) public cohort

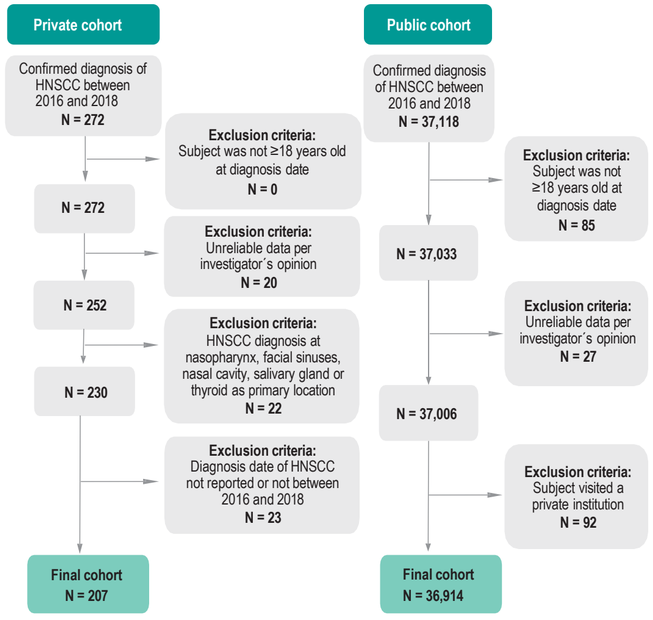
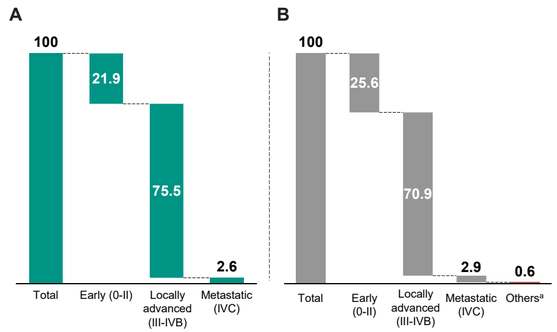


Table 1. Gender and age of HNSCC patients included in the study

Demographic variables	Private cohort	Public cohort
Gender, n (%)		
Male	166 (80.98)	29.853 (80.87)
Female	39 (19.02)	7061 (19.13)
Age at HNSCC diagnosis, N (%)		
Median (IQR)	68.0 (60.0 - 76.0)	60.91 (53.8 - 68.6)

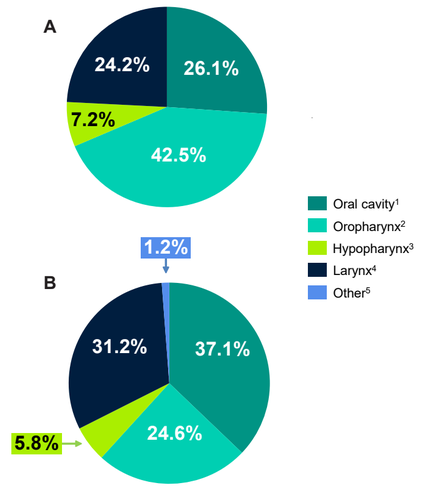
HNSCC, head and neck squamous cell carcinoma; SD, standard deviation; IQR, interquartile range.

Figure 2. Distribution[b] (%) of disease stage classification[c] for private (A) and public (B) cohorts



[a]Others ICD-10 codes: C14, C14.0, C14.8
[b]Data available for 92.8% and 64.7% of the private and public cohorts, respectively.
[c]Staging according to AJCC 7th edition

Figure 3. Primary location of HNSCC in the private (A) and public cohorts (B) during 2016 - 2018



[1]Oral cavity as per medical report or ICD-10 codes: C00, C00.0-C00.6, C00.8-C00.9, C02, C02.0-C02.3, C02.8-C02.9, C03, C03.0-C03.1, C03.9, C04, C04.0-C04.1, C04.8-C04.9, C05, C05.0, C05.8-C05.9, C06, C06.0-C06.2, C06.8-C06.9. [2]Oropharynx as per medical report or ICD-10 codes: C09, C09.0-C09.1, C09.8-C09.9, C01, C02.4, C05.1-C05.2, C10, C10.0-C10.4, C10.8-C10.9, C14.2. [3]Hypopharynx as per medical report or ICD-10 codes: C12, C13, C13.0-C13.2, C13.8-C13.9. [4]Larynx as per medical report or ICD-10 codes: C32, C32.0-C32.3, C32.8-C32.9. [5]Other as per medical report or ICD-10 codes: C14, C14.0, C14.8.

Results

- This study included 36,914 and 207 patients from public and private cohorts, respectively (**Figure 1**)
- There was a predominance of male patients (81%) in both cohorts (**Table 1**)
- The median age at diagnosis was 68.0 years in the private cohort and 60.9 in the public cohort (**Table 1**)
- Staging at diagnosis: locally advanced stage of HNSCC accounted for most patients in both cohorts - 75.5% (private) and 70.9% (public) (**Figure 2**)
- Primary tumor location: the most frequent location was oropharynx in the private cohort and oral cavity in the public cohort (**Figure 3**)[5]
- Time from diagnosis to death: the median time was 16.8 (IQR: 10.5- 27.82) months in the private cohort and 6.8 (IQR: 3.3-12.5) in the public cohort
- The median age at death was 68.01 (IQR: 57.41 - 81.17) in the private cohort and 61.47 (IQR: 54.27 - 69.62) in the public cohort

Limitations

- This is a descriptive retrospective study. Comparisons between study cohorts were not possible due to differences in the number of patients and data sources
- There is no Brazilian unified national registry in the private system; therefore, study results are not nationwide representative, as only describes patients from six private institutions
- Extrapolation of the results from this study should be carefully applied to population, as external validity may be limited to the number of patients and their locations in the private cohort
- The median time from diagnosis to death in this study may be lower compared with clinical trials with immunotherapies
- Immunotherapy with nivolumab for recurrent/metastatic HNSCC with progression of disease during or after platinum-based chemotherapy was approved in Brazil in December 2017 and pembrolizumab as first line treatment for metastatic, irresectable or recurrent HNSSC, as monotherapy for PD-L1 expression or as a platinum-based chemotherapy combination, in December 2019
- Intrinsic to retrospective studies, both cohorts may suffer from selection bias

Conclusion

- The results presented in this study reflect the standard of care for patients with HNSCC at the time of data collection. In the total population evaluated, there was a predominance of diagnosis in stages III-IVB of the disease in males with 60 years or older. Oropharynx and oral cavity were the most frequent primary tumor sites
- This study allowed better understanding of HNSCC patient characteristics in the public and private cohorts in Brazil, identifying relevant information and possible areas of improvement in the medical care along the patients' journey

References

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