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Patient journey of head and neck squamous cell cancer in 5 oncology institutions in Colombia

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Background and rationale

Head and neck cancers comprise a heterogeneous group of malignancies that include squamous cells on the mucosal surfaces of the oral cavity, sinonasal cavity, pharynx and larynx, thyroid gland, and salivary glands.[1] Around 90% of head and neck cancers present as head and neck squamous cell carcinomas (HNSCC); as of 2018, 830,000 new cases and 430,000 deaths related to these cancers occur worldwide each year.[2]

HNSCC is a significant healthcare concern in Colombia. The estimated age-standardized incidence in the country is 178.8 cases per 100,000 inhabitants for both sexes and has remained unchanged for more than a decade.[3]

Colombia has established a compulsory health insurance system with two main regimes: the Contributory Regime (CR) and the Subsidized Regime (SR). CR covers all individuals in the formal sector and their dependents and is financed by general taxes and social contributions, while SR covers individuals who do not have the economic capacity for social contributions and taxes, being health services covered by the government. There is a minority part of the population that is included in an "other" regimen, including military forces and teachers.

Given that there is scarce evidence regarding the patient pathway for HNSCC in Colombia, it is essential to understand the journey of these patients and the critical points along the way.

Objective

To describe the patient journey in terms of treatment patterns, resource utilization, and stage of disease at diagnosis of HNSCC patients in Colombia.

Methods

This was a retrospective, descriptive, and multicenter cohort study, based on the review of medical records from HNSCC patients who were attended in 5 Colombian cancer reference centers between January 1, 2015, and December 31, 2019. Clinical, epidemiological, and healthcare resource utilization (HCRU) data were analyzed. Patients ≥18 years of age with at least 1 consultation related to ICD-10 codes for oral cavity (C00-06), oropharynx (C09-10), hypopharynx (C12-13), and larynx (C32) were included.

The outcomes assessed included treatment patterns and time intervals. Time intervals were defined based on established guidelines: I) Diagnosis Interval (DI) – the time from the patient's first consultation to the definitive anatomopathological diagnosis, II) Treatment Interval (TI) – the time from confirmatory diagnosis to the initiation of treatment, and III) Interval to first image – the time from diagnostic suspicion to the first diagnostic image and HPV identification in HNSCC.

Results

A total of 91 patients were included in the analysis. Median age at diagnosis was 61 years old, and 79% (n=72) were male. Fifty-eight percent (n=53) belonged to CR, 32% (n=29) to SR, and 10% (n=9) to another regime. The most prevalent tumor anatomic locations were the oropharynx (46.2%), larynx (39.6%), and oral cavity (14.3%). Clinical staging revealed 33% (n=30) of cases classified as Stage IV-IVC, 22% (n=20) as Stage III, 25% (n=23) as Stages I-II, 1% as Stage 0 (n=1), and 19% (n=17) as unknown stage.

A total of 158 treatments were administered. Of these, 78% (n=123) were classified as first-course treatments and 22% (n=35) were treatments for patients with relapsed disease.

Radiation monotherapy was the most indicated first-stage treatment (36%; n=45), followed by chemotherapy in combination with radiation therapy (21%; n=26) and surgery (21%; n=26). In contrast, in patients with relapsed disease, chemotherapy was the most indicated treatment (37%; n=13), followed by immunotherapy (20%; n=7).

The distribution of treatment patterns according to the clinical stage of the disease at diagnosis showed that radiation monotherapy (67%; n=8) and surgery (33%; n=4) were the main treatments used in patients with clinical Stage I disease (n=12) (**Table 1**).

In patients with clinical Stages II and III, radiation monotherapy and chemotherapy alone were the most common first-stage treatments. On the other hand, in patients with advanced disease (Stage IV-IVC), chemotherapy alone was the most indicated treatment in patients with clinical Stage IV, both as the first course of treatment and in the relapse of the disease (50% (n=7) and 69% (n=9), respectively).

Table 1. Distribution of treatment modalities used in HNSCC patients

Type of treatment	Contributory 99 (63%)	Subsidized 45 (28%)	Other 14 (9%)	Total n=158 (100%)
First course of treatment	74 (75%)	36 (80%)	13 (93%)	123 (78%)
Surgery	17 (23%)	5 (14%)	4 (31%)	26 (21%)
Chemotherapy in combination with radiation therapy	7 (9%)	14 (39%)	5 (38%)	26 (21%)
Chemotherapy	17 (17%)	6 (17%)	1 (8%)	24 (19%)
Radiotherapy	31 (42%)	11 (30%)	3 (23%)	45 (36%)
EGFR targeted therapy	2 (3%)	0 (0%)	0 (0%)	2 (2%)
Relapse	25 (25%)	9 (20%)	1 (7%)	35 (22%)
Surgery	1 (4%)	1 (11%)	0 (0%)	2 (6%)
Chemotherapy combined with radiation therapy	2 (8%)	1 (11%)	0 (0%)	3 (9%)
Chemotherapy	9 (36%)	4 (44%)	0 (0%)	13 (37%)
Radiotherapy	6 (24%)	2 (22%)	1 (100%)	9 (26%)
Immunotherapy	6 (24%)	1 (11%)	0 (0%)	7 (20%)
EGFR targeted therapy	1 (4%)	0 (0%)	0 (0%)	1 (3%)

Note: A patient may have received more than one treatment. EGFR, Epidermal growth factor receptor.

Regarding HCRU, a total of 1320 medical consultations were provided during the analyzed period, with clinical oncology (18.5%) being the most common, followed by oncological radiotherapy (3%) (**Table 2**). Furthermore, 648 diagnostic studies were performed, most in the ambulatory setting and for the CR. The most common diagnostic test image was computed tomography (53%) (**Table 2**).

There was a statistical difference in HCRU between the CR and SR regarding the number of consultations with specialized medicine and laboratory tests done (**Table 3**).

Table 2. Utilization of outpatient services of the health system during the care route of patients with HNSCC

	Contributory 1590 (62%)	Subsidized 714 (28%)	Other 255 (10%)	Total 2559 (100%)
Type of outpatient service				
Consultation by specialized medicine				
	739 (46%)	437 (61%)	144 (56%)	1320 (52%)
Clinical oncology	318 (43%)	194 (44%)	60 (42%)	572 (43%)
Radiation oncology therapy	225 (30%)	119 (27%)	24 (17%)	368 (28%)
Otorhinolaryngology	60 (8%)	33 (7%)	43 (30%)	136 (10%)
Head and neck surgery	52 (7%)	50 (11%)	4 (3%)	106 (8%)
Pain and palliative care	40 (5%)	13 (3%)	0 (0%)	53 (4%)
Hemato-oncology	23 (3%)	14 (3.2%)	0 (0%)	34 (3%)
*Specialized medical consultations with <1% of visits in the period	21 (2.8%)	14 (3.2%)	13 (9%)	48 (3.6%)
Diagnostic studies				
	372 (23%)	159 (22%)	58 (23%)	589 (23%)
Computed tomography (CT) scan	189 (51%)	100 (63%)	26 (45%)	315 (53%)
Nasofibrolaryngoscopy (NFL)	41 (11%)	29 (18%)	2 (3%)	72 (12%)
Magnetic resonance imaging (MRI)	42 (11.3%)	5 (3%)	4 (7%)	51 (9%)
Positron emission tomography (PET-CT) scan	26 (7%)	6 (4%)	18 (31%)	50 (8%)
Echography	22 (6%)	8 (5%)	3 (5%)	33 (6%)
Bone scan	13 (3%)	5 (3%)	1 (2%)	19 (3%)
Chest X-ray	10 (2.7%)	5 (3%)	2 (3%)	17 (3%)
**Diagnostic studies with <1% of visits during the period	29 (8%)	1 (0.6%)	2 (3%)	32 (5%)
Laboratory tests and minor procedures				
	479 (30%)	118 (16%)	53 (21%)	650 (25%)
Laboratory tests	471 (98%)	117 (99%)	51 (96%)	639 (98%)
Minor procedures	8 (2%)	1 (1%)	2 (4%)	11 (2%)

Table 3. Relationship between the number of ambulatory services made for patients from the CR and SR, with HNSCC

Outpatient service	Contributory	Subsidized	*P* value*
Consultation by specialized medicine	739 (46%)	437 (61%)	*P* <0.05
Diagnostic studies	372 (23%)	159 (22%)	0.6051
Laboratory tests	471 (30%)	117 (16%)	*P* <0.05
Minor procedures	8 (0.5%)	1 (0.1%)	0.3559

The median DI was 120 days, and the median TI was 73 days. The median DI was 124 days in the CR and 84 days in the SR, while the median TI was 55 days in the CR vs 78 days in the SR (**Table 4**).

Table 4. Time intervals in the care pathway of patients diagnosed with HNSCC

Time intervals (days)	CR Median (IQR)	CS Median (IQR)	Other Median (IQR)	Total Median (IQR)
Diagnostic interval	124 (244)	84 (62)	72 (195)	120 (199)
Treatment interval	55 (77)	78 (103)	87 (64)	73 (95)
Interval to first image	108 (143)	57 (52)	206 (175)	94 (141)

IQR, interquartile range.

Of the total number of patients included in the study, only 30% (n=27) reported a diagnostic test to identify HPV infection. Of these, 59% (n=16) tested positive.

The location of HPV positive tests was mainly in the oral cavity and oropharynx 37% (n=10 cases) and 11% (n=3 cases), respectively (**Table 5**).

Table 5. Identification of HPV in patients with HNSCC treated at oncological institutions in Colombia

	Contributory 14 (52%)	Subsidized 7 (26%)	Other 6 (22%)	Total 27 (100%)
HPV test result				
Positive	7 (50%)	4 (57%)	5 (83%)	16 (59%)
Negative	4 (29%)	1 (14%)	1 (17%)	6 (22%)
Indeterminate	1 (7%)	1 (14%)	0 (0%)	2 (7%)
Unknown	2 (14%)	1 (14%)	0 (0%)	3 (11%)
HPV(+) localization				
Tonsil	0 (0%)	1 (14%)	1 (17%)	2 (7%)
Oral cavity[a]	5 (36%)	2 (29%)	3 (50%)	10 (37%)
Larynx	1 (7%)	0 (0%)	0 (0%)	1 (4%)
Oropharynx	1 (7%)	1 (14%)	1 (17%)	3 (11%)
Type of test				
HPV–PCR	0 (0%)	2 (28%)	0 (0%)	2 (7%)
Q16	10 (71%)	3 (43%)	6 (100%)	19 (70%)
Other	2 (14%)	2 (28%)	0 (0%)	4 (15%)
Stranger	2 (14%)	0 (0%)	0 (0%)	2 (7%)

[a]Oral cavity includes tumors located at the base of the tongue.

Conclusion

The HNSCC patient's journey in Colombia showed that the treatment patterns followed international guidelines. However, there were delays at different points in the patient care pathway that affected the DI and TI for both CR and SR. It would be critical to work with all the stakeholders of the health system to identify pain points that may allow optimizing the times and therefore improve patients' outcomes.

The complexity of the healthcare system impacts patient health outcomes. It is necessary to continue to generate real-world data that includes recently introduced approaches to improve and optimize the patient pathway.

References

1. Chow LQM. *N Engl J Med.* 2020;382(1):60-72.
2. Bray F, et al. *CA Cancer J Clin.* 2018;68(6):394-424.
3. Perdomo SP, et al. *Cancer Res.* 2019;79(13).

Disclosure

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