

Primary oto-rhino-laryngological cancers: Epidemiological, clinical and therapeutic aspects about 231 cases in Senegal

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Abstract

Objective: establish the epidemiological, clinical and therapeutic profile of primary cancers of the oto-rhino-laryngological (ENT) sphere in a reference oncology service in Senegal.

Methods: This is a retrospective descriptive study, conducted at the Joliot Curie Institute of Aristide le Dantec hospital over a 30 months period from January 1, 2020 to June 30, 2022.

Results: 231 ENT cancers were collected in our study, with a mean age of 51 years [11; 93]. Females predominated with a sex ratio of 0.88. Alcoholism was noted in 15.1% of cases. Smoking was noted in 23.8%. Alcohol smoking predominated in laryngeal cancer. The oral cavity was the most frequent site (44.6%). The histological nature of the cancers was dominated by squamous cell carcinoma (93.5%). Stages III and IV were in the majority: 62.8% and 23.8% of cases respectively. Neoadjuvant surgery was performed in 11.9% of cases. Chemotherapy was used in 65.1% of cases (including 90.2% for induction). Radiotherapy was used in 42.9% of cases and associated with chemotherapy in 90.7% of cases.

Conclusion: ENT cancers are common in Senegal and diagnosed at all ages. Females predominate. The most common cancers are those of the oral cavity. They are discovered at a locally advanced stage and are treated with induction chemotherapy followed by concomitant chemoradiotherapy.

Keywords: Epidemiology; Cancer; ENT; Senegal; Radiotherapy.

1. Introduction

Primary cancers of the oto-rhino-laryngological (ENT) sphere are malignant tumors that develop in one of the organs forming the upper aerodigestive tract. These are cancers developed in the oral cavity, pharynx, larynx and nasosinus cavities. They are estimated at around 600,000 new cases every year throughout the world [1]. In industrialized countries, their genesis is largely favored by alcoholism. ENT cancers are dominated by squamous cell carcinomas [2]. At the time of diagnosis, more than 60% of patients present with a locally advanced stage (stages III and IV) [3]. The management of these ENT cancers is multidisciplinary, combining surgery, radiotherapy and chemotherapy. Depending on the stage of the disease, the treatment combines these different therapeutic weapons concomitantly or sequentially. It is not easy to identify published studies on all ENT cancers in Africa south of the Sahara. The aim of this study is to

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establish the epidemiological, clinical and therapeutic profile of primary cancers of the oto-rhino-laryngological (ENT) sphere in a reference oncology service in Senegal.

2. Material and methods

This is a retrospective descriptive study conducted over a 30 months period from January 1, 2020 to June 30, 2022. The Institut Curie of the Aristide Hospital Le DANTEC served as our study center. Data were collected from patient files consulted in the archives of the said department. All cases of primary ENT cancers at the date of diagnosis confirmed histologically during the study period are included.

The variables studied are: sociodemographic data, histopathological data, the initial stage of diagnosis according to the TNM classification, the therapeutic strategy used. Data were entered and analyzed using Epi-Info 7 software.

3. Results

A total of 231 ENT cancers were admitted with a mean age of 51 years [11; 93]. Females predominated with a sex ratio of 0.88. Alcohol intoxication was noted in 35 cases (15.1%), including 11 women (31.4%). Smoking intoxication was noted in 55 cases (23.8%), including 13 women (23.6%). Alcohol and smoking predominated in cancers of the oral cavity and larynx. The oral cavity was the most frequent location 44.6% of cases followed by the hypopharynx 29.5% and the larynx 12.6% of cases. The histological nature of the cancers was dominated by squamous cell carcinoma in 93.5% of cases. Stages III and IV were the majority in 62.8% and 23.8% respectively. Around a quarter of patients were lost to follow-up before their treatments. Primary surgery was performed in 11.9% of cases. Chemotherapy was used in 65.1% of cases, including 90.2% for induction and 9.8% for palliative. Radiotherapy was used in 42.9% of cases. It was associated with chemotherapy in 90.7% of cases and was palliative in 9.3%.

4. Discussions

We collected a total of 231 cases in 30 months, an average of 92 cases per year. This figure could be underestimated when we know that some patients do not reach the referral hospital, because they are deliberately referred to the traditional practitioner and that a good number of clinically suspicious cases could not be confirmed.

The relatively young mean age at diagnosis found in our series is comparable to that of Amana et al in Togo [4] and Dolivet et al in France [5]. This can be explained by the combination of early exposure to tobacco and alcohol and the low life expectancy found in sub-Saharan Africa.

Historically, the male predominance of ENT cancers was classically found in the literature. We found a female predominance in 53.2% of cases. This result is similar to that of I. Ndiaye et al in Senegal who found a rate of 57.6% in favor of the female sex [6]. This can be explained by the feminization of risk factors such as alcohol and tobacco poisoning in our countries [7]. The literature also describes the higher incidence in women of certain locations, notably the hypopharynx, which constitutes a majority location in our series [8].

In our series, the notion of alcohol and tobacco intoxication was associated with cancers of the oral cavity and larynx. This association was found in the series of Espinosa et al in Spain [9] and Choi et al in South Korea [10]. In industrialized countries, the genesis of ENT cancers is largely dominated by alcohol and smoking, even if other factors are now known or suspected [1].

The oral cavity was the most frequent location 44.6% of cases, followed by the hypopharynx 29.5% and the larynx 12.6%. Our results are similar to those of Amana et al in Togo who found a predominance of oral cavity 36.2%, oropharynx 18.5%, larynx 18.1% and Dalengrada et al in Reunion found a predominance of the oropharynx, oral cavity and hypopharynx [11]. This predominance of oral cavity cancers is widely described in the literature.

The histological nature was dominated by squamous cell carcinoma 93.5% in our series. Our results are in line with those of Kampo et al in Mali 91.67% [12]. Cancers were mainly discovered at stages III and IV. This known trend in developing countries is explained by the delay in consultation (absence of pain at the start of the disease, initially slow tumor growth, absence of compulsory social security coverage), and the attachment of tumor diseases in our countries to mystical facts [10].

The treatment carried out is only a reflection of the therapeutic strategy adapted to the stage of discovery, which explains the majority of patients are treated with induction chemotherapy followed by concomitant chemoradiotherapy.

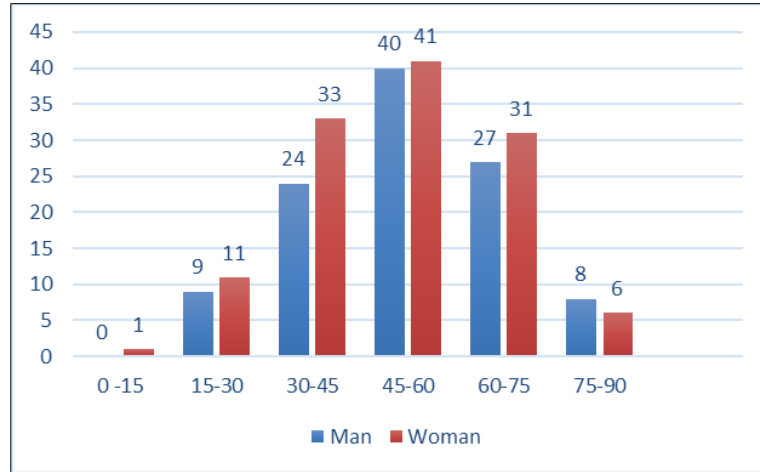


Figure 1 Distribution of patients with ENT cancers by sex and age

Table 1 Distribution of patients according to histological type

Histological type	Frequency	
	Number(n)	Percentage (%)
Squamous cell carcinoma	216	93.5
Lymphoma	4	1.7
Sarcoma	3	1.3
Undifferentiated Carcinoma (UNCT)	3	1.3
Mucinous adenocarcinoma of the larynx	2	0.9
Adenocarcinoma of the tongue	2	0.9
Acinar carcinoma	1	0.4
Total	231	100

Table 2 Distribution of patients according to site

Site	Frequency	
	Number(n)	Percentage (%)
Oral cavity	103	44.6
Hypopharynx	68	29.5
Larynx	29	12.6
Oropharynx	11	4.7
Sinus cavity	11	4.7
Nasopharynx	7	3
Ear cavity	2	0.9
Total	231	100

5. Conclusion

ENT cancers are common in Senegal and diagnosed at all ages. The predominant cancers are those of the oral cavity, hypopharynx and larynx. Females predominate. Alcohol smoking was the major risk factor and the most frequent locations were the oral cavity and the pharynx. The histological nature of the cancers was largely dominated by squamous cell carcinoma. They are discovered at a locally advanced stage and are treated with induction chemotherapy followed by concomitant chemoradiotherapy.

Compliance with ethical standards

Disclosure of Conflict of interest

The authors have declared no conflicts of interest

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Lefebvre JL, Demaille A, Chevalier D. *Encycl Med Chir (Elsevier, Paris), Otorhinolaryngology* . 1996. Epidemiology of cancers of the upper aerodigestive tract; p. 18. [Google Scholar]
- [2] Périé S, Meyers M, Mazzaschi O, De Crouy Chanel O, Baujat B, Lacau St Guily J. Epidemiology and anatomy of ENT cancers. *Bull Cancer*. 2014;101(5): 404–10. [PubMed] [Google Scholar]
- [3] C. Monnerat , S. Faivre, E. Raymond . Induction chemotherapy in locally advanced head and neck cancers. *La Lettre du Oncérologist - volume*
- [4] Amana B, Foma W, Pegbessou E, Bissa H, Adam S, Amana E, et al. Primary otolaryngological and cervico-maxillofacial cancers : epidemiological and histopathological aspects . *Pan Afr Med J*. September 29, 2016; 25:47[PubMed] [Google Scholar]
- [5] Dolivet G, Colosetti P, Merlin JL, Depardieu C, Lapeyre M, Wattel E, et al. Elements of epidemiology and initiation of carcinogenesis in VADS carcinomas Future therapeutic consequence? *Rev Laryngol Otol Rhinol* . 1998; 119(1):5–12. [PubMed] [Google Scholar]
- [6] N' Diaye I, N'Damage TD, Tall A, Diouf R, Diop EM Profile of hypopharyngeal cancers in Senegal. *Paris , Ann Otolaryngol Chir Cervicofac*. 1997; 114:86-89.
- [7] Thariat J, Vigno S. The essentials of the ENT special issue. *Bull Cancer*. 2014 May; 101(5):401–3. [PubMed] [Google Scholar]
- [8] Helliwell TR. Best Practice No 169: Evidence based pathology: squamous carcinoma of the hypopharynx. *Journal of Clinical Pathology*. Feb 1 , 2003; 56(2):81 - 5. [Google Scholar]
- [9] Espinosa J, Bravo P, Baron MG. Influence of tobacco on laryngeal carcinoma in Spain. *Neoplasma* . 1992; 39(5):319–22. [PubMed] [Google Scholar]
- [10] Choi SY, Kahyo H. Effect of cigarette smoking and alcohol consumption in the aetiology of cancer of the oral cavity, pharynx and larynx. *Int J Epidemiol* . 1991; 20(4):878–85. [PubMed] [Google Scholar]
- [11] Delagranda A, Bouvier V, Berkaoui J, Ferdynus C, Dufour French *Annals of Otorhinolaryngology and Cervicofacial Pathology*. Oct 2014;131(4):A94. [Google Scholar]
- [12] Kampo M I. Tumor pathologies in ENT : assessment of one year from November 2004 to October 2005[Thesis].Bamako: University of Bamako;2006.89.