J Stomatol Oral Maxillofac Surg xxx (2017) xxx–xxx

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Original Article

Oral cancer characteristics in France: Descriptive epidemiology for early detection

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ARTICLE INFO

Article history:
Received 29 November 2016
Accepted 15 February 2017

Keywords:
Oral cavity cancer
Population-based study
Stage at diagnosis
Early detection

ABSTRACT

Despite the frequency and lethality of oral cancers in France, there are no detailed general population data regarding the characteristics of these patients to fuel the public health authorities' reflections about early detection policies. Thus, the objective of this study was to determine, in the general population, the characteristics of both patients and tumours at the time of the diagnosis. A high-resolution, population-based study using 13 French registries was conducted on 1089 tumours diagnosed in 2010. Men accounted for 75% of cases. The most frequent sites were tonsil (28.4%) and oral tongue (21.1%). The median age varied from 56.7 years for floor of mouth to 66.4 years for gum. The lesions were mainly diagnosed on pain and those diagnosed after routine clinical examination were scarce (2.6%). There were 65.5% stage III and IV at diagnosis. Oral tongue, floor of mouth and palate presented tumours less than 2 cm only in 34 to 40% of cases. Advanced stage was associated with the presence of comorbidities, and tonsil or base of tongue topography. Stage was not associated with *Département*, deprivation index or gender. This study provided a picture of the characteristics of oral cancer patients and their tumours and showed that diagnoses are often made late, even for those tumours most easily accessible to direct visual and tactile examination. Nevertheless, it remains to define the target population of an early detection and to evaluate the benefit of such detection on the mortality rate.

1. Introduction

In Europe, oral cavity and pharynx cancers are the sixth most common group of cancers among men with an estimated annual incidence of 73,900 cases and 34,200 deaths [1]. France has an incidence rate amongst the highest in Europe [1], although it is constantly decreasing [2]; there were an estimated 4384 new cases of oral and oropharynx cancer in men and 2117 in women in 2010 [3].

The main risk factors are tobacco and alcohol [4], consumption of which explains 82.9% of cases [5]. In the last decade, human papillomavirus has been recognized as a carcinogenic agent for oropharynx [6]. In addition, these cancers are strongly linked to socioeconomic factors: the risk of developing an oral cancer is greater in those with a low level of education or a low income, regardless of smoking or alcohol consumption [7].

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http://dx.doi.org/10.1016/j.jormas.2017.02.003
2468-7855/

The prognosis of oral cavity and oropharynx cancers is extremely poor in France, with a 5-year net survival of 43% and 37%, and a 10-year net survival of 28% and 19%, respectively [8]. This figure is amongst the lowest of European countries [9] and has hardly improved over the last 15 years. The major determinant of this lower survival rate is the stage at diagnosis: 5-year survival in patients diagnosed at an advanced stage is reduced by a factor of 1.5 to 2 compared with that for patients diagnosed at a localised stage [9]. On top of this, aggressive treatment regimes following late diagnosis can lead to serious sequels that affect quality of life [10].

Given the high incidence and poor prognosis, the screening or early detection of these cancers, easily accessible on visual inspection and manual palpation, is a public health issue in many countries [11]. Thus, the French governmental cancer plan 2009–2013 [12] advocated early detection of oral cavity cancers. Following this, the National Cancer Institute (INCa) set up multimedia training for dentists (2009) and general practitioners (2010) to teach them how to detect suspicious lesions through an in-depth examination of the oral cavity in high-risk patients [13]. Despite the frequency and lethality of these cancers, there are no detailed French general population data regarding the characteristics of these patients to fuel the public health authorities' reflections about early detection policies. Thus, the objective of this study was to determine, in the general population, the characteristics of the patients and their tumours at the time of diagnosis.

2. Material and methods

2.1. Population

This high-resolution, population-based study concerned all patients aged over 20 years with a diagnosis of invasive oral cancer in 2010. Tumours were categorised according to the *International Classification of Diseases for Oncology* – third edition – ICD-O 3 as:

Table 1
Characteristics of patients with incident oral cancer in France (2010) and univariate analysis of tumour stage at diagnosis.

	Stage I–II		Stage III–IV		*P* univariate	Total ($n = 1089$)	
Variable	*n*	%	*n*	%		*n*	%
Sex					0.03		
Male	213	27.4	564	72.6		817	75.0
Female	87	34.4	166	65.6		272	25.0
Age					0.03		
<55	111	31.4	242	68.6		369	33.9
[55–65[	92	24.2	289	75.8		395	36.3
≥ 65	97	32.8	199	67.2		325	29.8
Département					0.36		
Calvados	26	33.3	5	66.7		81	7.4
Doubs	18	32.1	38	67.9		58	5.3
Gironde	37	31.9	79	68.1		122	11.2
Hérault	21	25.9	60	74.1		86	7.9
Isère	36	35.3	66	64.7		104	9.5
Loire-Atlantique	30	22.6	103	77.4		148	13.6
Manche	20	37.7	33	62.3		54	5.0
Lille et sa région	36	31.9	77	68.1		115	10.6
Bas-Rhin	23	29.1	56	70.9		88	8.1
Haut-Rhin	14	26.9	38	73.1		54	5.0
Somme	20	24.7	61	75.3		83	7.6
Tarn	9	30.0	21	70.0		32	2.9
Vendée	10	17.9	46	82.1		64	5.9
Deprivation quintile					0.68		
Privileged 1	54	31.2	119	68.8		186	17.1
Quite privileged 2	48	27.8	125	72.2		180	16.5
Quite underprivileged 3	48	26.2	135	73.8		195	17.9
Underprivileged 4	75	32.2	158	67.8		245	22.5
Very underprivileged 5	75	28.7	186	71.3		276	25.3
Unknown						7	0.6
Age-adjusted Charlson comorbidity index					0.01		
0	56	39.4	86	60.6		146	13.4
1–2	131	26.6	362	73.4		510	46.8
≥ 3	111	28.3	281	71.7		426	39.1
Unknown						7	0.7
Tumour site					<0.001		
C01: base of tongue	6	4.8	118	95.2		125	11.5
C02: oral tongue	121	57.9	88	42.1		230	21.1
C03: gum	17	23.0	57	77.0		78	7.2
C04: floor of mouth	48	35.6	87	64.4		148	13.6
C05: palate	46	41.8	64	58.2		118	10.8
C06: other & unspecified parts of mouth	21	29.2	51	70.8		81	7.4
C09: tonsil	41	13.4	265	86.6		309	28.4
Mode of discovery							
Pain	170	34.2	327	65.8		525	48.2
Dyspnea	3	42.7	4	57.1		8	0.7
Dysphonia	6	28.6	15	71.4		21	1.9
Oral bleeding	4	28.6	10	71.4		16	1.5
Cervical swelling	30	13.2	197	86.8		230	21.1
Impaired general status	9	8.3	99	91.7		111	10.2
Clinical exam without symptoms	17	65.4	9	34.6		28	2.6
Fortuitous	12	34.3	23	65.7		39	3.6
Unknown						111	10.2

Please cite this article in press as: Jéhannin-Ligier K, et al. Oral cancer characteristics in France: Descriptive epidemiology for early detection. J Stomatol Oral Maxillofac Surg (2017), http://dx.doi.org/10.1016/j.jormas.2017.02.003