

Research Article

Epidemiology of Orofacial Cancers at the National Center for Odonto-Stomatology Professor Hamady Traoré: 112 Cases

Coulibaly Amady^{1, 5, *} , **Guindo Sekou Oumar¹**, **Adam Saliou²**, **Traoré Boubacar¹**, **Sidibé Sory Ibrahim³**, **Kassambara Abdoulaye^{1, 5}**, **Sissoko Yaya¹**, **Diabaté Koniba^{4, 5}**

¹Department of Stomatology and Maxillofacial Surgery, National Center for Odonto-Stomatology Professor Hamady Traoré, Bamako, Mali

²Department of Stomatology and Maxillofacial Surgery, CHU-SO, Lomé, Togo

³Department of Anatomical Pathology and Cytology, National Center for Odonto-Stomatology Professor Hamady Traoré, Bamako, Mali

⁴Department of Radiation Oncology, Mali Hospital, Bamako, Mali

⁵Faculty of Medicine and Odonto-Stomatology, University of Bamako, Bamako, Mali

Abstract

Orofacial cancers are primary or secondary malignant cell proliferations that develop from the constituent elements of the orofacial region. In our context, the prognosis for this condition remains poor due to the attribution of these tumors to mystical causes and poverty leading to delays in seeking medical attention. The objective of this study was to investigate the epidemiological and clinical aspects of orofacial cancers. This was a descriptive cross-sectional study conducted over a 4-year period (January 2020 to December 2023) that included all cases of orofacial cancer confirmed by histological examination. The variables studied were compiled, entered and analyzed using SPSS 21 software. We recorded 112 cases during the study period. The 61 years and older age group was the most represented, accounting for 34.82% of cases. The mean age was 50 years. Females were predominant, with a sex ratio of 0.84. Poor oral hygiene was observed in 91.07% (n=102) of cases, and smoking in 10.72% (n=12). The reason for consultation was swelling in 63.39% (n=71) of cases. Mandibular involvement was observed in 26.78% (n=30), followed by maxillary and lingual involvement in 18.75% (n=21) of each. Squamous cell carcinoma accounted for 63.39% (n=71). Surgery was performed in 18.75% (n=21). In-hospital mortality was 6.25% (n=7). Orofacial cancers are common in our setting, and the predominance was female. The most frequent histological type was squamous cell carcinoma.

Keywords

Cancers, Oral, Maxillofacial, Epidemiology, Bamako

*Correspondence: Coulibaly Amady (coulibalyamady@yahoo.fr)

Received: 20 November 2025; **Accepted:** 16 December 2025; **Published:** 2 February 2026



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1. Introduction

Orofacial cancers are primary or secondary malignant cell proliferations that develop from the constituent elements of the orofacial region. The orofacial region comprises various closely interconnected anatomical elements, resulting in cancers affecting the nasosinus, oral cavity, pharynx, and esophagus. Oral cancers are common, representing 3% of all malignant tumors and 25 to 30% of all cancers of the upper aerodigestive tract [1]. Oral cancer is common in men in developing countries. It is the 8th most common cancer in men and the 14th in women worldwide [2]. Nine out of ten cases occur in individuals who smoke and drink alcohol, and very often at or near precancerous lesions [3].

In our context, the prognosis for this condition remains poor due to the attribution of these tumors to mystical causes and poverty leading to delays in seeking medical attention. This is why the present study was initiated, with the aim of assessing the epidemiological and clinical aspects of orofacial cancers.

The objective of this study was to investigate the epidemiological and clinical aspects of oromaxillofacial cancers.

2. Method

This was a descriptive cross-sectional study, with retrospective data collection conducted over a period of four years, from January 1, 2020 to December 31, 2023. The study took place in the Department of Stomatology and Maxillofacial Surgery at the University Hospital Center of the National Odonto-Stomatology Center Professor Hamady Traoré in Bamako. The study included all patients with clinically diagnosed and histologically confirmed orofacial cancer and a usable medical record. The variables studied were age, sex, occupation, residence, marital status, education level, recruitment method, risk factor, reason for consultation, time to consultation, tumor location, histological type, treatment, and outcome. Data were collected from these medical records using a questionnaire. Data were entered and analyzed using SPSS 21 software. The study was conducted in accordance with ethical research guidelines. All patient data collected was confidential. To protect identity and confidentiality, participants were identified only by a code. Participation in this study did not involve any particular risk. No medical procedures were performed, and no additional examinations were requested beyond the standard care protocol.

3. Results

During the study period, we collected 112 cases of orofacial cancer over a four-year period, representing an annual incidence of 28 cases. The sample consisted of 61 women (54.5%) and 51 men (45.5%), for a sex ratio of 0.84. The 61 and older age group was the most represented, accounting for 34.82% of cases (Table 1). The mean age of the patients was 50 years,

ranging from 1 to 90 years.

Table 1. Distribution of Patients According to Age Group.

Age group (year)	Number	Frequency (%)
[0—10]	06	05,36
[11—20]	08	7,14
[21—30]	09	08,03
[31—40]	20	17,86
[41—50]	20	17,86
[51—60]	22	19,65
61 et plus	27	24,10
Total	112	100

Table 2. Distribution of Patients According to Residence.

Residence	Number	Frequency (%)
Bamako	62	55,36
Ségou	17	15,18
Koulikoro	11	09,82
Kayes	08	07,14
Autres	14	12,50
Total	112	100

Patients residing in Bamako accounted for 55.36% of cases. Other cases: Guinea (Conakry, 5), Mopti (6), Ténenkou (1), Timbuktu (2).

Table 3. Distribution of Patients According to Occupation.

Occupation	Number	Frequency (%)
Housewife	50	44,64
Farmer	21	18,75
Shopkeeper	09	08,04
Student	08	07,14
Worker	06	05,36
Tailor	04	03,57
Other	14	12,50
Total	112	100

Housewives were the most represented group, accounting for 44.64%.

Other occupations included: blacksmith (4), painter (2), mechanic (2), teacher (4), and shoemaker (2).

Married patients accounted for 80.36% of cases. Un-schooled patients represented 66.96%. Referred patients accounted for 77.68% of cases.

In our study, the contributing factors identified were poor oral hygiene in 102 cases (91.07%), smoking in 12 cases (10.72%), and alcohol-tobacco use in 4 (3.57%). The patients' reason for consultation was painful swelling in 81 cases (72.32%), followed by painful ulcerations in 22.32% (Table 4).

Table 4. Distribution of Patients According to Reason for Consultation.

Reason for consultation	Number	Frequency (%)
Painful swelling	81	72,32
Painful ulceration	25	22,32
General malaise	03	02,68
Other	03	02,68
Total	112	100

The patient consultation delay was 1 to 6 months in 61 cases (54.46%) with an average of 16.38 months. Mandibular involvement was observed in 26.78% (n=30), followed by maxillary and lingual involvement in 18.75% (n=21) of each (Table 5).

Table 5. Distribution of Patients According to Tumor Location.

Location	Number	Frequency (%)
Mandible	30	26,79
Maxilla	21	18,75
Tongue	21	18,75
Cheek	12	10,71
Palate	10	08,93
Parotid gland	06	05,36
Lip	04	03,57
Other	08	07,14
Total	112	100



Figure 1. Image of a Cystic Adenoid Carcinoma of the Palate.

Other: Gum, Floor of mouth, Submaxilla, Maxillomandibular.

Cervical lymphadenopathy was observed in 57 cases (50.90%).

Squamous cell carcinoma (Figure 2) was the most frequent histological type followed by sarcomas (Table 6).



Figure 2. Image of a Squamous Cell Carcinoma of the Tongue.

Table 6. Distribution of Patients According to Histological Type.

Histological type	Number	Frequency (%)
Squamous cell carcinoma	71	63,39
Sarcomas	11	09,82
Adenoid cystic carcinoma	10	08,93
Mucoepidermoid carcinoma	07	06,25
Others	13	11,61
Total	112	100

The tumors were at stage 4 in 55 cases (49.11%) followed by stage 3 in 34 cases (30.36%).

Surgery was performed in 18.75% of our patients (21 cases).

Chemotherapy was initiated in 110 patients (98.21% of cases) in one or more cycles. Only two patients received radiotherapy (1.79%). At one-year follow-up, we recorded 46 cases (41.07%) lost to follow-up and 22 cases (19.64%) of death (Table 6).

Table 7. Distribution of Patients According to Evolution.

Evolution	Number	Frequency (%)
Lost to follow-up	46	41,07
Death	22	19,64
1-year survival	44	39,29
Total	112	100

4. Discussion

The incidence of orofacial cancers remains high in our setting. In the present study, 112 cases were recorded over a four-year period, representing an annual incidence of 28 cases. These results are comparable to those of Millogo et al. in Burkina Faso, who found an annual incidence of 22.2 cases [4]. Bissa H et al. in Togo reported 66 cases, representing an annual incidence of 6.6 cases [5]. The literature almost unanimously confirms the male predominance of this disease [6-9]. However, in this study, females represented 54.5%, with a sex ratio of 0.84. This same female predominance was found by Millogo M [4] in Burkina Faso, with 54.1%. This could be explained by the fact that, on the one hand, women are more concerned about their physical appearance, leading them to consult a doctor earlier than men. On the other hand, the increase in oral-genital sexual intercourse could be a factor in the contamination of the oral cavity by the human papillomavirus. All age groups were affected, but the most represented was the over-61 age group at 34.82%, with an average age of 50 years. This result is similar to that of Millogo M [4] in Burkina Faso, who found an average age of 49.2 years, and that of BISSA H in Togo, who found an average patient age of 46.1 years [5]. However, the average age reported by Western authors is higher, which could be explained by the higher life expectancy in these countries, with an estimated average age between 55 and 60 years [10]. These results show that orofacial cancers in our study population and in African populations occur earlier than in those of European countries. In Diakité B's study [11] in Mali, 78.43% reported tobacco use and 50.84% reported alcohol use. Millogo M [4] in Burkina Faso found 59.5% reported tobacco use and 45% reported alcohol use in his series. However, in this series, the majority of patients had no history of combined tobacco and alcohol use. In this study, the main reason for consultation was painful swelling in 72.32%. In contrast, in Diakité B's study [9], swelling was found in 54.90% and ulceration in 25.50%. Most patients in

the present study consulted at an advanced clinical stage. It is often during a flare-up, specifically an increase in volume or the appearance of pain or ulceration, that patients seek medical attention. The time to consultation was less than 7 months in 54.46% of cases, with an average of 16.38 months. In Millogo M's study [4], the average time to consultation was 20.2 months. This delay in seeking medical attention could be explained by sociocultural factors, the use of traditional medicine, and poverty.

The oral mucosa is susceptible to contributing factors such as poor oral hygiene, alcohol, and tobacco [11, 12]. The predominance of intraoral involvement is thought to be linked to the fact that most cancers of the orofacial region originate in the oral mucosa [13].

However, in this study, the swelling was located in the mandible in 26.79% of cases, and in the maxilla and lingual regions in 18.75% each. Millogo M [4] in Burkina Faso, in his study, found salivary gland involvement in 20.72% of cases and mandibular involvement in 18.8%.

Cervical lymphadenopathy was found in nearly 75% of cases; it was mostly bilateral, reflecting the high lymphophilia of maxillofacial cancers [14, 15]. In this study, lymphadenopathy was found in one or more lymph node levels in 50.90% of cases, a result lower than that of Millogo M [4] in Burkina Faso, who found peripheral lymphadenopathy in 52.3% of patients. Only histopathological analysis by biopsy or excision of the tumor allows for a definitive diagnosis. Squamous cell carcinoma represents the vast majority of malignant maxillofacial tumors, accounting for more than 90% [16]. The rarity of sarcomas and melanoma has been reported by most authors worldwide [17]. Squamous cell carcinoma was the most represented histological type in this study at 63.39%, followed by sarcomas at 9.82% and adenoid cystic carcinoma at 8.93%. This result is comparable to that of Millogo M [4] in Burkina Faso, who found 62% squamous cell carcinoma and 11% adenoid cystic carcinoma. Lucie G [18] in France found 80% squamous cell carcinoma and 13% adenoid cystic carcinoma.

The treatment protocol depends on the clinical stage of the tumor. The case should be discussed in a multidisciplinary team meeting [19]. Five-year survival varies depending on lymph node involvement. For neoplasms, it is 42% to 49%, and for forms with palpable lymphadenopathy, the 5-year survival rate is 13% to 24% [18]. The standard treatment for these cancers is primarily surgical. In this study, treatment consisted of chemotherapy in one or more cycles in 81.25% of cases, surgery with or without lymph node dissection in 18.75%, and radiotherapy in 1.79% of cases. Millogo M [4] in Burkina Faso found that 41.4% of patients received chemotherapy, 31.5% underwent surgery, and 1.8% received radiotherapy. The outcome was marked by a mortality rate of 19.64% and a loss to follow-up rate of 41.07%. Millogo M [4] found a mortality rate of 47.7% and a loss to follow-up rate of 33.3%. However, it appears that there is underreporting of relapses and deaths due to the difficulty of long-term patient follow-up. The significant proportion of patients lost to follow-up in our

series (41.07% of cases) illustrates this.

5. Conclusion

Orofacial cancers are common and often diagnosed late in our setting. They affect all age groups and both sexes. Histological types are highly variable, with squamous cell carcinoma being the most prevalent, and the mandible remains the most common location. The prognosis remains poor due to delayed consultation, the attribution of these tumors to mystical causes, and poverty. Raising public awareness about avoiding risk factors, early consultation, and appropriate management can improve the prognosis of these cancers.

Conflicts of Interest

The authors declare that they have no conflicts of interest related to this work.

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