

RESEARCH ARTICLE

# Epidemioclinical, Histopathological and Therapeutic Aspects of Nasosinus Tumours at the Brazzaville University Hospital

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## Abstract

**Objective:** To describe the epidemiological, clinical, histopathological and therapeutic aspects of nasosinus tumours at Brazzaville University Hospital.

**Materials and Methods:** We carried out a retrospective descriptive study over a period of 05 years on cases of nasosinus tumours diagnosed in patients over 6 years of age at the Brazzaville University Hospital and for which anatomopathological results were available.

**Results:** During the study period, 52 patients suspected nasal and/or sinus tumours (maxillary and/or ethmoidal), representing a frequency of 5.09%. The average age was  $50 \pm 12.5$ , with a sex ratio of 2.1. Diabetes (21.1%) and hypertension (17.3%) were the main antecedents. The most common socio-professional category was blue-collar (44.2%), and the most common functional sign was epistaxis (32.7%). According to histological type, benign nasosinus tumours were more frequent, with 37 cases (71.1%); malignant nasosinus tumours with regional extension were first biopsied and then possibly treated with additional radiotherapy; however, all benign nasosinus tumours were operated on.

**Conclusion:** NSTs are relatively rare and can be diagnosed at any age. They are dominated by benign tumours, notably inverted papilloma. Surgery remains the treatment of choice in our context.

**Keywords:** Tumeur-Nez-Sinus -Histology-Brazzaville.

## 1. Introduction

Naso-sinus pathologies are frequent, dominated by inflammations and infections of the nasal cavity and/or paranasal sinuses. The multiform characteristics of the nasal-sinusal mucosa also allow the development of both benign and malignant tumours. However, malignant naso-sinusal tumours (MNST) account for around 3% of cancers of the upper aerodigestive tract [1], most often appearing in late stages with serious complications that present diagnostic and therapeutic difficulties, especially in underdeveloped countries [2].

## 2. Materials and Methods

We conducted a retrospective descriptive study in the Ear, Nose and Throat and Cervico-Facial Surgery, Medical Oncology and Anatomopathology departments of the Brazzaville University Hospital.

The study was carried out over a period of 05 years (from 1<sup>er</sup> January 2019 to 31 December 2023) and only the records of patients with confirmed nasosinus tumours in the period indicated and the registers of histological examination results of surgical specimens and biopsies from the two ENT departments were consulted.

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The study included patients over 06 years of age who having confirmed nasosinus tumours and complete records.

As the technical facilities were limited, only chemotherapy and surgery were carried out in the absence of palliative treatment.

Data analysis was carried out using Microsoft Excel and Word version 2016 to compile the tables.

Quantitative variables were expressed as mean + or - standard deviation and qualitative variables as numbers and percentages. For comparisons of two

percentages, the classic inferential statistics test was used. The SOKAL and ROLF tests were used for comparisons of more than two percentages. The statistical significance level was set at 5%.

### 3. Results

During the study period, 1020 patients received for rhino-sinus pathology were collated and only 52 cases presenting nasal and/or sinus tumours (maxillary and/or ethmoidal) were found, i.e. a frequency of 5.09%. There were 35 men (67.3%) and 17 women (32.7%), for a ratio of 2.1. The mean age was  $50 \pm 12.5$  years, with extremes ranging from 7 to 81 years (Table I).

**Table 1.** Age and sex of patients

Gender Age (years)	M		F		Number of cases	
	N	%	N	%	N	%
[7-20]	2	50	2	50	4	7,7
[21-40]	6	75	2	25	8	15,4
[40-60]	14	66,6	7	33,4	21	40,4
> 60	13	68,4	6	31,6	19	36,5
<b>Total</b>	<b>35</b>	<b>67,3</b>	<b>17</b>	<b>32,7</b>	<b>52</b>	<b>100</b>

Diabetes (21.1%) and hypertension (17.3%) were the main antecedents, whereas alcohol (11.5%) and smoking (13.5%) were rarely found as antecedents in our patients.

All socio-professional categories were affected, but blue-collar workers (44.2%) were the most affected, followed by civil servants (23.1%) and school children (7.7%).

**Table 2.** Functional signs presented by patients

Signs	Frequency	Percentage
Epistaxis	17	32,7
Facial deformity	6	11,5
Cervical adenopathy	13	25
Nasal obstruction	8	15,4
Purulent rhinorrhea	8	15,4
<b>Total</b>	<b>52</b>	<b>100</b>

Functional signs were much more local, dominated by epistaxis (32.7%) followed by nasal obstruction (25%); cervical adenopathy and purulent rhinorrhoea were found at a low frequency of 15.4% each, followed by facial deformity (11.5%) (Table II).

From a histological point of view, we noted two types of tumours: malignant naso-sinusal tumours with 15 cases (28.5%) and benign naso-sinusal tumours with 37 cases (71.1%). These tumours were distributed as follows: adenocarcinoma 15.4%; squamous cell

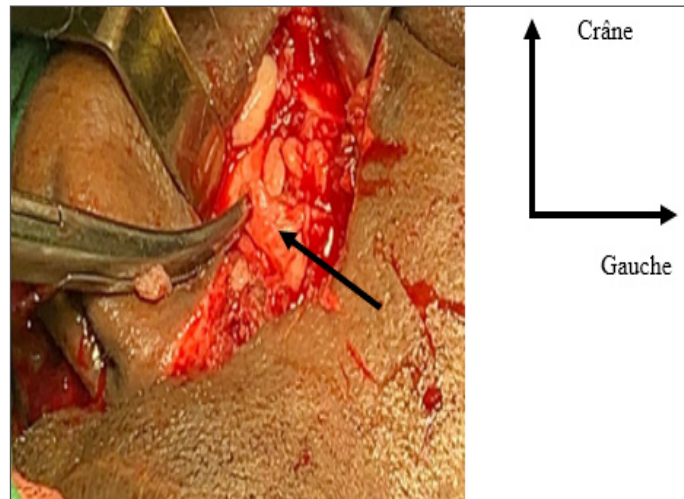
carcinoma 17.4%; capillary haemangioma 3.8%; transitional naso-sinusal papilloma 7.7%; inverted papilloma 28.8%; ulcerated angio-fibrous polyp 7.7%; Schneiderian polyp 5.7% and unilateral antrochoanal polyp 13.5% (Table III).

**Table 3.** Breakdown of patients by histological type

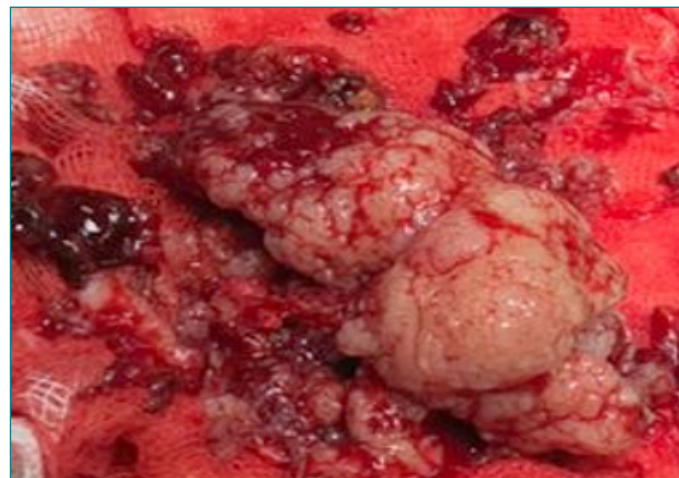
Histology	Frequency	Percentage
<b>Adenocarcinoma</b>	8	15,4
Squamous cell carcinoma	9	17,4
Hair hemangioma	2	3,8

Transitional nasosinus papilloma	4	7,7
Inverted papilloma	15	28,8
Ulcerated angiofibrous papilloma	4	7,7
Schneiderian polyp	3	5,7
Unilateral antrochoanal polyp	7	13,5
<b>Total</b>	<b>52</b>	<b>100</b>

Naso-sinusal tumours with regional extension were first biopsied and then underwent additional radiotherapy; however, all naso-sinusal tumours were operated on (Figures 1, 2 and 3).



**Figure 1.** Image of the left ethmoidomaxillary ulcerating tumour



**Figure 2.** Extracted left ethmido-maxillary tumour



**Figure 3.** Closure of the incision in the left paralateronasal tract



## 4. Discussion

The literature reports a relatively low frequency of nasosinus tumours (NST), dominated by benign tumours. In our study, this frequency was 5.09%.

AMANA B et al [3] report a frequency of 4.78%. This low rate may be explained by the apparent triviality of the signs and/or symptoms of NST and negligence on the part of patients; this would explain the delay in consultation and the rapid development of complications that may jeopardise patients' vital prognosis, especially in the case of malignant tumours.

The mean age in our study was  $51.1 \pm 12.5$  years with a sex ratio of 2.1, dominated by men (67.3%). This finding was also made by YOUSSEF et al [4] who found an average age of 52 years with a male predominance (sex ratio = 2.1).

However, Grag D et al [5] report an average age of 76 years, which is much higher than in our study. However, some tumours, such as inverted papilloma, are found preferentially in men, with a sex ratio of 4 [6].

This suggests that NITs are very likely to be the preserve of adults and older people, most of whom are male.

Diabetes (21.1%) and hypertension (17.3%) were the most common antecedents in our study, compared with alcohol and tobacco (11.5 and 13.5 respectively). These results are in line with the literature [7], which considers that alcohol and tobacco are not recognised as risk factors for nasosinus tumours.

In our study, blue-collar workers were the socio-professional category most affected by NSC with a frequency of 44.2%. This socio-professional category appears to be the most exposed to the risk factors for NSCT, namely wood and copper dusts, nickel compounds and even fabric dusts [8-9].

Clinical symptomatology is almost common in all TNS. In our study it was dominated by epistaxis (32.7%) followed by nasal obstruction (25%). However, cervical adenopathy was found in a small number of cases (15.4%). The remaining authors confirm a polymorphism in the clinical features of TNS. This is the case of Anderson G et al [10] on the one hand and Jeroux. F et al [11] who respectively found 98% and 75% cases of nasal obstruction.

The histological distribution was bipolar, characterised by malignant NSCT and benign NSCT. Of the malignant NSTs, CE was the most common

histological type, accounting for 17.5%, followed by adenocarcinoma (15.4%).

These results concur with those of Richard J et al [12] who also found a predominance of ECs followed by adenocarcinomas. DJOMOU et al [13] and Amana B et al [3] even consider that ECs are the histological type most frequently encountered in malignant tumours of the ENT sphere.

However, benign NST were dominated in our study by inverted papilloma (28.8), a very aggressive benign NST with the possibility of bone lysis and malignant transformation in some cases. These results are far superior to those of AMANA B et al [3] who found 3.37% in a study of 89 cases.

From a therapeutic point of view, it was imperative to impose a strict protocol with a good initial assessment of the lesion and a clear choice of treatment (approach, method of excision) adapted on a case-by-case basis, with appreciable follow-up.

In the absence of endoscopic treatment, all NSB tumours had undergone surgery alone, either the Caldwell-Luc approach or the paralatronasal approach of MOURE and Sébilleau, or electrocoagulation polypectomy.

Among the malignant tumours, only eight (8) cases underwent a simple biopsy because they had cervical adenopathy and were then referred to medical oncology for appropriate treatment. However, the other seven (7) cases of malignant tumours were operated on and then evacuated to Morocco for additional radiotherapy, which was not available in Congo Brazzaville.

## 5. Conclusion

NFTs are relatively rare and preferentially affect men. Epistaxis and nasal obstruction were the dominant functional signs. Neginal NST were more represented, dominated by inverted papilloma. In the absence of endoscopic treatment, the majority of patients benefited from surgical treatment.

As radiotherapy was unavailable in the Congo, some patients were evacuated to Morocco for further treatment.

### Conflicts of Interest

The authors declare no conflicts of interest.

### Contribution of the Authors

All the authors contributed to the conduct of this work and also declare that they have read and approved the final version.

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