

Indications and Results of Parotidectomies in the Orl Department of the Idrissa Pouye General Hospital in Dakar. Concerning 31 Cases

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Abstract

Introduction: The parotid tumors are benign or malignant, primary or secondary neoforations developed at the expense of the parotid gland. The aim of the present study was to describe the indications and results of parotidectomies in the ENT department of the Idrissa Pouye General Hospital in Dakar. **Patients & Methods:** We conducted a retrospective study between January 1, 2004 and December 31, 2012, including all patients who had been consulted for a parotid tumor with or without histological evidence collected in the otolaryngology and anatomy-pathology department of the Idrissa Pouye General Hospital in Dakar. **Results:** We collected 31 patient files. The mean age was 47.45 years, with extremes of 16 and 74 years. Females predominated, with a sex ratio of 0.82. Swelling of the parotid region was the main reason for consultation in 100% of cases. Parotidectomy was the most frequently performed procedure, accounting for 41.93%. Benign tumors accounted for 72% of cases, the majority being pleomorphic adenomas (50%). The outcome was favorable in 67.74% of cases. **Conclusion:** Management of parotid tumors at HOGIP would be improved by informing and educating patients to consult early, and by upgrading the technical platform.

Keywords

Parotid Gland, Parotid Tumor, Pleomorphic Adenoma, Epidemiology, Clinic, Treatment, Dakar

1. Introduction

Tumours of the salivary glands are rare and highly varied, dominated in frequency by parotid tumours (70% - 80%), which develop at the expense of the constituent elements of the parotid gland, and are benign or malignant lesions. They may be primary or secondary [1]. They account for 3% to 4% of all tumors in the body, and 6% of those in the head and neck [2]. Benign tumours, in particular pleomorphic adenomas, are the most common in the parotid gland, accounting for between 40% and 80% of all cases [3]. Although the majority of these tumours are curable, malignancy can never be ruled out, even in association with other rare pathologies [4].

These salivary gland tumors are characterized by great morpho-histological heterogeneity [5].

However, parotid tumors are of great interest due to their variety of clinical presentation, histological and evolutionary characteristics. The most frequent mode of revelation is swelling of the parotid lodge [6].

Over the years, a number of studies on parotid tumor pathology have been published. In terms of surgical management, since the time of VIRCHOW in 1863, there has been a clear evolution in practices. In Senegal, several studies have been carried out on this subject [5] [7].

In a study carried out in the odontostomatology department of Niamey National Hospital, the hospital prevalence was estimated at 0.11 consultations, with an average incidence of around 5 cases per year [8].

The real challenge of parotidectomy lies in the risk of facial nerve damage, which can result in significant aesthetic damage [6].

The aim of the present study was to improve the management of parotid tumors, and to describe the indications and results of parotidectomies in the ENT department of the Idrissa Pouye General Hospital in Dakar. The aim was to add value to our scientific research.

2. Materials & Methods

This was a retrospective study; conducted in the Department of Otolaryngology and Anatomic Pathology at Hôpital Idrissa Pouye in Grand Yoff between January 01, 2004 and December 31, 2012. Thirty-one files were examined and retained for our study. All records of patients who underwent parotidectomy in these 2 departments during the study period constituted our study population. We included in this study all patients who had been consulted for a parotid tumor with or without histological evidence. Data collection was based on patient observation records. Survey forms (see **Appendix**) were drawn up from these files to collect epidemiological, diagnostic, therapeutic and evolutionary data for each patient. We used Word, Microsoft Excel 2010 and SPSS version 16.0 to enter the data and design the tables and figures. Data concerning the identity of patients were treated with respect for anonymity and confidentiality.

3. Results

During our study period, we collected 31 records of patients who had been consulted for a parotid tumor with or without histological evidence. The average age was 47.45 years, with extremes of 16 and 74 years. The 40 - 50 age group was the most represented, with 9 patients or 29.03% of cases. The age ranges are shown in **Figure 1**.

Female predominance was clear, with 17 cases (54.8%) and a sex ratio of 0.82. The mean time to consultation in our series was 5 years, with extremes of 2 and 15 years. The most frequent circumstance of discovery was a swelling of the parotid region, accounting for 100% of our patients. Peripheral facial paralysis was present in 3 of our patients (9.67%). Pain was present in one patient (3.25%). Palpable adenopathy was noted in one patient (3.25%).

Ultrasound of the parotid region was not performed in any patient. CT scanning was performed in one patient (3.25%). The histological results of the surgical specimens in 25 of our patients (80.64%) revealed 18 cases of benign tumours (72%), and 7 cases of malignant tumours (28%). **Table 1** shows the distribution of histological types.

The indication for surgery was based on the circumstances of discovery and the clinical examination. All our patients had undergone surgery, and the majority (54.84%) underwent exofacial parotidectomy. **Table 2** summarizes all the procedures performed.

Adjuvant radiotherapy was performed in 12.9% of our patients, and chemotherapy in one of our patients with a MALT-type lymphoma.

We noted 2 cases of death (6.45%), 8 lost to follow-up (25.80%) and 21 (67.74%) alive and well, with no locoregional or tumor-distant events.

4. Discussion

Salivary gland tumours account for only 0.2% to 0.6% of all tumours in general [9]. The parotid gland is the largest and most frequently affected, accounting for 90% of tumours of the main salivary glands. Some 70% - 80% of salivary gland tumours are located in the parotid glands, of which 80% are benign [10] [11].

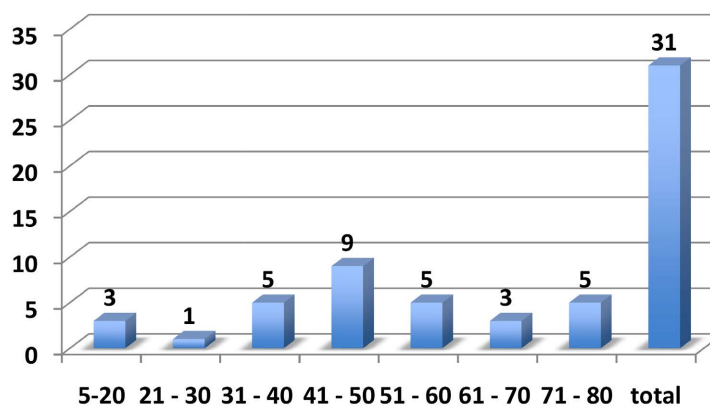


Figure 1. Distribution of patients by age group.

Table 1. Results of histological types of patient surgical specimens.

HISTOLOGICAL TYPES	EFFECTIF	PERCENTAGE (%)
BENIGN TUMORS		
Pleomorphic adenoma	9	36
Myoepithelioma	1	4
Basal cell adenoma	1	4
Cystadenolymphoma	3	12
Lymphadenoma	1	4
Sialadenoma	3	12
MALIGNANT TUMORS		
Squamous cell carcinoma	3	12
Adenoid cystic carcinoma (Cylindrome)	3	12
Lymphoma	1	4
TOTAL	25	100

Table 2. Distribution of patients according to surgical indication.

SURGERY	NUMBER	PERCENTAGE (%)
Exofacial parotidectomy	17	54.84
Total conservative parotidectomy	8	25.81
Total non-conservative parotidectomy	6	19.35
TOTAL	31	100

Pleomorphic adenoma (PA) is a frequent benign tumor of the salivary glands [9]. Parotid tumours can occur at any age [6]. In our series, the mean age was 45.42 years, with extremes of 16 and 74 years. These tumours remain rare in children [6]. In the literature, the peak incidence for parotid tumors is in the 5th, 6th and 7th decades [6]. This is in line with those found by Akkari *et al.* [9], with a mean age of 45 years, and Konan *et al.* [12], with extremes of 8 and 75 years.

Gender distribution varies in the literature. In most series [13] [14], there is a female predominance similar to that of our study.

In our practice, the time taken for clinical symptoms to develop was long, averaging 5 years. This was identical to that reported by Konan [12], which ranged from 1 to 5 years in 2010, while Beltaief *et al.* [15] in 2007 reported an average consultation time of 26 months, with extremes ranging from 1 month to 10 years.

Swelling of the parotid region was the most frequent reason for consultation in all patients (100%) in our series, associated in rare cases with peripheral facial paralysis in 3 patients (9.67%). Several series have also shown that swelling of the parotid region was the main symptom [16] [17] [18]. Clinical examination pro-

vides evidence of benignity (firm, mobile, painless) or malignancy (fixed, painful, adenopathies) [19].

Imaging continues to play an important role in the diagnosis of parotid tumors. Ultrasound is a simple, non-invasive examination. It enables diagnosis in almost 100% of cases [19]. Ultrasound remains limited in the exploration of the deep lobe and large tumors, where it is difficult to appreciate the boundaries [19]. In our series, no patient underwent ultrasonography, unlike in the series by Konan [12], where 65.79% of patients benefited from ultrasonography. This is clearly inferior to the study by Akkari *et al.* [9], who showed that all their patients (100%) benefited from an ultrasound scan. Computed tomography (CT) perfectly visualizes the parotid gland with its two superficial and deep lobes, and pinpoints the topography of lesions and their locoregional extension. It attests to the aggressiveness of certain malignant tumors and their invasion of neighboring tissues [7] [20].

One of our patients had to undergo a CT scan, in order to better characterize the tumor and clarify its limits. This is significantly lower than the rate reported in the literature [9] [15].

Magnetic resonance imaging (MRI) is a highly effective means of diagnosing parotid tumours, but is not often used in our practice. Fine-needle aspiration is still a controversial procedure in the management of parotid tumours.

Its sensitivity and specificity were 81.8% and 97.5% respectively in the series by Longuet *et al.* [21]. The low rate of performance of these different examinations could be explained by the lack of financial means of the majority of our patients.

The inclusion criterion in our study was the availability or absence of histological evidence. In our series, histological findings concerned anatomopathological examinations of surgical specimens, *i.e.* 80.64% of patients having undergone a histological examination. Benign tumors predominated, with 18 cases (72%), led by pleomorphic adenomas in 9 cases (36%). Malignant tumors accounted for 7 cases, with carcinoma the most frequent histological type (6 cases), followed by MALT-type lymphoma (4%). These data are comparable to those in the literature [9] [22].

In well-equipped countries, extemporaneous anatomopathological examination is an integral part of the surgical procedure. It enables surgical treatment to be modulated intraoperatively. It is still lacking in the tropics. However, this examination has its limitations, with 75% sensitivity and 100% specificity in the series by Longuet *et al.* [21].

In terms of treatment, there was unanimous agreement that parotidectomy is essential for all parotid tumours, for both diagnostic and therapeutic purposes. Exofacial parotidectomy was the most frequently performed surgical procedure, with 17 patients (54.84%). This high percentage can be explained by poor record keeping. This was followed by conservative total parotidectomy in 8 cases (25.80%). In the absence of extemporaneous examination, we tend more towards total paro-

tidectomy, which remains a maximalist attitude. This attitude has also been reported by other authors [2].

The indication for complementary radiotherapy in malignant parotid tumours is no longer debated.

In the treatment of parotid cancers, all studies confirm the improvement in prognosis when surgery and radiotherapy are combined, rather than surgery alone or radiotherapy alone [16].

Chemotherapy has been used for lymphoma and sarcoma in various series [23] [24]. In our series, one patient underwent adjuvant chemotherapy for lymphoma.

For cancers, the overall survival rate found in the literature is between 71% and 82% at 3 years and between 61% and 72% at 5 years, but long-term follow-up (10 to 20 years) is still necessary to detect late recurrences, especially for certain histological types with slow tumor growth [15].

5. Conclusion

Relatively rare parotid tumors are characterized by their great diversity. They pose a number of diagnostic, therapeutic and evolutionary problems. In principle, these tumors are amenable to surgical treatment, with or without radiotherapy for malignant lesions. The management of parotid tumors at HOGIP could be improved by informing and educating patients to seek early consultation, and by upgrading the technical facilities.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Monique, R. (2021) Pathologies of the Parotid and Submandibular Glands. Report of the Société Française d'ORL et de Chirurgie cervico-faciale. Elsevier, Amsterdam.
- [2] Stryjewska-Makuch, G., Kolebacz, B., Janik, M.A. and Wolnik, A. (2017) Increase in the Incidence of Parotid Gland Tumors in the Years 2005-2014. *Otolaryngologia Polska*, **71**, 29-34. <https://doi.org/10.5604/01.3001.0009.8412>
- [3] Moatemri, R., Belajouza, H., Farroukh, U., Ommezzine, M., Salma, A., Ayachi, S., *et al.* (2008) Epidemiological Profile of Salivary Gland Tumors in a Tunisian University Hospital. *Review of Stomatology and Maxillofacial Surgery*, **109**, 148-152. <https://doi.org/10.1016/j.stomax.2008.04.001>
- [4] Dieng, M. (2015) Parotid Tumors (about 4 Cases). Memoire Med. DES ORL. UCAD, Dakar.
- [5] Ndiaye, C. (2015) Giant Tumor of Parotid Gland. *European Annals of Otolaryngology, Head and Neck Diseases*, **2**, 140.
- [6] Doumbia-Singare, K., Timbo, S.K., Guindo, B., Traore, L., *et al.* (2015) Review of 5 Years of Parotidectomy: About 36 Cases in the ENT Department of Chu Gabriel Toure, Bamako. *African College of Odontostomatology and Maxillofacial Surgery*, **22**, 52-56.

- [7] Diom, E.S., Thiam, A., Tall, A., Ndiaye, M., Toure, S. and Diouf, R. (2015) Profile of Parotid Gland Tumors: Experience on 93 Cases Collected in 16 Years. *French Annals of Otolaryngology and Crevice-Facial Pathology*, **132**, 9-12. <https://doi.org/10.1016/j.anorl.2014.01.010>
- [8] Moussa, M., Abba Kaka, H.Y., Roufaye, L., Eboungabeka Trigo, E.R. and Bancole Pognon, S.A. (2020) Epidemiological, Clinical and Therapeutic Aspects of Parotid Tumors. *European Scientific Journal*, **16**, 147-156. <https://doi.org/10.19044/esj.2020.v16n24p147>
- [9] Akkari, K., Chnitir, S., Mardassi, A., Sethom, A., Miled, I., Benzarti, S., et al. (2007) Parotid Tumors: About 43 Cases. *Journal Tunisien d'ORL et de Chirurgie Cervico-Faciale*, **10**, 29. <https://doi.org/10.4314/jtdorl.v18i1.42042>
- [10] Ajiya, A., Shuaibu, I.Y. and Omeje, U.K. (2021) An Audit of Parotid Gland Surgeries in Kano, Nigeria: A Review of 34 Cases. *Nigerian Postgraduate Medical Journal*, **28**, 27-32. https://doi.org/10.4103/npmj.npmj_309_20
- [11] Sentani, K., Ogawa, I., Ozasa, K., Sadakane, A., Utada, M., Tsuya, T., Kajihara, H., Yone-Hara, S., Takeshima, Y. and Yasui, W. (2019) Characteristics of 5015 Salivary Gland Neoplasms Registered in the Hiroshima Tumor Tissue Registry over a Period of 39 Years. *Journal of Clinical Medicine*, **8**, Article No. 566. <https://doi.org/10.3390/jcm8050566>
- [12] Emmanuel, K. (2010) Diagnostic and Therapeutic Aspects of Parotid Tumors in Maxillofacial Surgery at Treichville University Hospital. *Odonto-Stomatologie Tropicale*, **33**, 11-17.
- [13] Enhnen Ben, B., Ferchiou, M., Khayat, O., Zribi, S., Labbene, N., El Khedim, A., et al. (2010) Tumors of the Salivary Glands: Anatomico-Clinical and Epidemiological Study of a Series of 180 Cases. *Tunisian Medical Journal*, **88**, 240-244.
- [14] Boko, E., Amana, B. and Kpemissi, E. (2005) Parotid Tumors: Study of 41 Cases at Lomé University Hospital. *African Review of ENT and Cervico-Facial Surgery*, **3**, 55-62.
- [15] Beltaief, N., Tababi, S., Atallah, S., Mansour, M.B.H., Ouertatani, I. and Charfi, A. (2007) Malignant Tumors of the Parotid Gland. *Journal Tunisien d'ORL et de Chirurgie Cervico-Faciale*, **10**, 25-28. <https://doi.org/10.4314/jtdorl.v18i1.42041>
- [16] Derin, S., Erdogan, S., Almac, A., Ulubil, A., Iseri, M., Aydin, O., Keskin, I.G., Oran, A. and Uuru, F.D. (2015) Parotid Gland Tumours in Turkish Population: Analysis of 165 Patients. *The Asian Pacific Journal of Cancer Prevention*, **16**, 3539-3542. <https://doi.org/10.7314/APJCP.2015.16.8.3539>
- [17] Faye, A.D., Kwedi, K.G.G., Djeri, M.B., Salami, A.T. and Beheton, R. (2022) Tumors of the Parotid Gland: Epidemiological, Clinical, Paraclinical and Therapeutic Aspects, about 61 Collected Cases. *Revue Ivoirienne d'odonto-stomatologie*, **24**, 21-27.
- [18] Diom, E.S., Thiam, A., Tall, A., Ndiaye, M., Toure, S. and Diouf, R. (2015) Profile of Parotid Gland Tumors: Experience of 93 Cases over a Period of 16 Years. *European Annals of Oto-Rhino-Laryngology, Head and Neck Diseases*, **132**, 9-12. <https://doi.org/10.1016/j.anorl.2014.01.010>
- [19] Andjock Nkouo, Y.C., Djomou, F., Meva'a Biouélé, R.C., Mindja Eko, D., Nkama, A.G., Choffor Nchinda, E. and Ndjolo, A. (2016) Assessment of Ten Years of Parotid Surgery in Yaoundé. *Health Sciences and Diseases*, **17**, 59-61.
- [20] Çetin, M.A., İkinciogullari, A., Saygi, G., Hatipoglu, K. and Dere, H. (2012) Giant Pleomorphic Adenoma of the Parotid Gland. pp. 116-118.
- [21] Longuet, M., Nallet, E., Guedon, C., Depondt, J., Gehanno, P. and Barry, B. (2001) Diagnostic Value of Cytopunction and Extemporaneous Histological Examination

- in Operated Primary Parotid Tumors. *Journal of Laryngology, Otology and Rhinology*, **122**, 51-55.
- [22] Oukabli, M., Boudhas, A., Setti, K., Touri, S., Mouanis, M., Haddane, A., *et al.* (2012) Salivary Gland Tumors: Anatomopathological Study about 105 Cases. *African Journal of Cancer*, **4**, 30-36. <https://doi.org/10.1007/s12558-012-0200-y>
- [23] Benjelloun, H., Jouhadi, H., Maazouzi, A., Benchakroun, N., Acharki, A., Tawfiq, N., *et al.* (2005) Rhabdomyosarcoma of the Parotid Gland: About Three Cases and Review of the Literature. *Cancer/Radiotherapy*, **9**, 316-321. <https://doi.org/10.1016/j.canrad.2005.04.004>
- [24] Barnes, L., Eugene, N.M. and Emanuel, P.P. (1998) Primary Malignant Lymphoma of the Parotid Gland Free. *Archives of Otorhinolaryngology—Head & Neck Surgery*, **124**, 573-577. <https://doi.org/10.1001/archotol.124.5.573>

Annex

Survey Sheet on Indications and Results of Parotidectomies in the Orl Department of Grand Yoff General Hospital

Inquiry form No. _____ File No. _____

1) CIVIL STATUS

Last name: _____ First names: _____

Age: _____ Sex: _____

Address: _____ Tel: _____

Profession: _____ Nationality _____

Entry date _____ Exit date _____

2) DISCOVERY CIRCUMSTANCES

Tumor Peripheral facial paralysis

Pain Adenopathies

Consultation time _____

3) SURVEY

✓ ANTECEDENTS

➤ PERSONAL

• MEDICAL _____

• SURGICAL _____

• GYNECO-OBSTETRICS _____

➤ FAMILY: Diabetes HTA Cancer

History of surgery Other

✓ LIFESTYLE

Socio-economic level: Low Medium High

4) CLINICAL EXAMINATION

✓ GENERAL REVIEW:

General condition: Good Bad

Conscience: Clear Altered

Mucous membranes: Colored Pale

Lower limb edema: Absent Present

Dehydration fold: Absent Moderate Present

Undernutrition fold: Absent Moderate Present

Constances: T = _____ TA = _____ FC = _____ FR _____

Weight = Height = BMI = _____

✓ ENT EXAMINATION

Skin _____

Mucous membranes:

• Anterior rhinoscopy: _____

• Oral cavity: _____

• Oropharynx: _____

• Otoscopy: _____

• Indirect laryngoscopy: _____

• Glands: _____

- Salivary glands
 - The left parotid gland: _____
 - Right parotid gland: _____
 - Submaxillary glands: _____
 - Sublingual glands: _____
- Thyroid gland: _____
- Ganglion areas: _____
- Cranial nerves: _____
- ✓ OTHER EQUIPMENT AND SYSTEMS: _____

5) PARACLINICAL EXAMINATIONS

✓ IMAGING

- Ultrasound of the parotid glands: _____
- CT scan of parotid glands: _____
- MRI of the parotid glands: _____
- Chest X-ray: _____

✓ Anatomo-cyto-pathology:

- Cytopunction: Yes No
- Surgical specimen: Yes No
- Results: Benign Malignant

Specify histological type _____

6) CLASSIFICATION: T _____ N _____ M _____

Stage: _____

7) TREATMENT

- ✓ Surgery: parotidectomy
 - Partial Total
 - Conservative Non-conservative
- ✓ Chemotherapy _____
- ✓ Radiotherapy _____

8) EVOLUTION:

- Alive
- Lost from sight
- Deceased