

Epidemiology of Benign Neck Tumors in Adults: Experience of A Young Otorhinolaryngology Department at The Talangai Referral Hospital in Brazzaville.

Otouana Dzon HB^{1,4*}, Nguouoni GC^{2,4}, Diambi S^{3,4}, Tsierie-Tsoba A^{2,4}, Ondzotto GW², Itiééré-Odzili AF^{2,4}, Ondzotto G^{2,4}

¹ENT-CCF Department, Talangai Referral Hospital, Congo

²ENT-CCF Department, University Hospital of Brazzaville, Congo

³ENT-CCF Department, Adolph Sicé General Hospital, Congo

⁴Marien Ngouabi University / Faculty of Health Sciences, Congo

Citation: Otouana Dzon HB, Nguouoni GC, Diambi S, Tsierie-Tsoba A, Ondzotto GW, Itiééré-Odzili AF, et al. Epidemiology of Benign Neck Tumors in Adults: Experience of A Young Otorhinolaryngology Department at The Talangai Referral Hospital in Brazzaville. *Annal of Otol Head and Neck Surg.* 2024;3(1):1-7.

Received Date: 21 April, 2024; **Accepted Date:** 26 April, 2024; **Published Date:** 27 April, 2024

***Corresponding author:** Otouana Dzon HB, Department of ENT, Talangai Reference Hospital, Congo

Copyright: © Otouana Dzon HB, Open Access 2024. This article, published in Annal of Otol Head and Neck Surg (AOHNS) (Attribution 4.0 International), as described by <http://creativecommons.org/licenses/by/4.0/>.

ABSTRACT

Objective: The objective of this study was to describe the epidemiological, diagnostic and therapeutic aspects of benign neck tumors in adults.

Material and methods: This was a 5-year cross-sectional, descriptive and retrospective study in the ENT-CCF department of the Talangai Referral Hospital in Brazzaville. Records of patients over 18 years of age with benign neck tumor with histological evidence were included. The parameters studied were epidemiological, clinical, paraclinical, and therapeutic. Data entry and analysis were done using Epi info version 15.5 software.

Results: out of a total of 156 ENT and cervicofacial tumors, benign cervical tumors represented 50.6% for a sex ratio of 0.1 in favor of women and an average age of 36 years \pm 11.3. Cervical swelling was the main complaint and variable in location. In all cases, the morphological diagnosis was established by ultrasound of the neck, revealing that hyper-echoic swelling was the most common (82.2%), followed by hypo-echoic swelling (17.8%). These were the partial thyroidectomy was the most common cause (27.6%) and postoperative conditions were complicated by dysphonia (2.8%).

Conclusion: Benign neck tumors are common in adults in our practice. They are diverse in nature and hyper-echoic thyroid nodules come first. The treatment is surgical and histological analysis of the operative specimen remains mandatory.

Keywords: Benign tumors; Neck; Adult

INTRODUCTION

Benign neck tumors are a group of neoplasia that is not serious or likely to metastasize [1]. They do not invade nearby structures and are limited to the organ at whose expense they grow [2]. These tumors are of variable

histological nature and can develop on different structures namely: skin, glands, vessels, nerves, muscles, larynx, trachea and cervical esophagus [2-4]. Some of them can undergo architectural changes and become cancerous if not treated early. Some authors report that they account for more than 50% of all ENT and cervicofacial tumors, with thyroid nodules occupying the first rank, followed by cervical cysts and lipomas [5; 6]. The diagnosis of these benign tumors is guided by cervical swelling and confirmed by histological analysis of the biopsy made by a specialist often used in developed countries [4,5]. However, in Africa, and particularly in Congo, biopsies are not helpful due to the lack of an adequate technical platform, requiring ultrasound guidance so as not to miss a malignant tumor. Only surgical excision can offer the possibility of a comprehensive analysis of the tumor in a less equipped working environment. The aim of this study was to describe the epidemiological, diagnostic and therapeutic aspects of benign neck tumours in adults.

PATIENTS AND METHODS

This was a 5-year descriptive and retrospective cross-sectional study from 01 January 2019 to 31 December 2023 in the ENT-CCF department of the Talangaï Referral Hospital. All patients over 18 years of age who experienced neck swelling and suvis in the same period were included in the study. Swellings for which histological analysis was in favour of malignancy or inflammation were excluded. These were patients received and treated in the ENT-CCF department and whose medical records were complete and well preserved. The collection of data was made possible by the use of medical records and records of the biopathology laboratory. Thus, the parameters studied were epidemiological (frequency, age, sex), clinical (history, reasons for consultations, site of the tumor), paraclinical (ultrasound aspects, histological types) and therapeutic (types of surgery). Data entry and analysis were done using Epi info version 15.5 software. The comparison of the quantitative variables was made by the Student's test and the significance threshold was set at $p < 0.05$.

RESULTS

Epidemiological characteristics:

Out of a total of 156 ENT and head and neck tumors, benign cervical tumors accounted for 50.6% (n=79). There were 9 men and 70 women with a sex ratio of 0.1. The mean age was 36 years \pm 11.3 years with extremes of 25 years and 47 years as shown in [Table 1](#).

Table 1: Distribution of patients by age and sex.

Age (an)	Sex		Total N (%)
	Masculine N (%)	Femal N (%)	
< 20	0	1 (1,2)	1 (1,2)
20 - 29	0	3 (3,6)	3 (3,6)
30 - 39	0	31(39,6)	31 (39,6)
\geq 40	9 (11,3)	35 (44,3)	44 (55,6)
Total	9 (11,3)	70 (88,7)	79 (100)

N= nombre; %: percentages

Clinical and ultrasound features:

High blood pressure was found in 21 patients (27.6%) and HIV/AIDS infection in two patients (2.8%). All of them had come in for consultation for cervical swelling of variable location as shown in [Table 2](#) and [Figure 1](#). In

all cases, the morphological diagnosis was established by ultrasound of the neck, revealing that hyper-echoic swelling came first (82.2%), followed by hypo-echoic swellings. All lipomas (16.4%) were hypoechoic on ultrasound while the other non-fatty solid swellings (83.6%) were hyperechoic with no statistical difference (Table III). These were the most common types of thyroid nodules (39.5%), followed by salivary gland cysts (34.6%), lipomas (16.4%) and cysts of the thyroglossal tract (9.5%). Biologically, patients with thyroid gland hypertrophy (n = 31, 39.5%) had benefited from a hormonal assessment, 9.5% of which were in favor of hyperthyroidism or Graves' disease. Synthetic anti-thyroid therapy (NEOMERCAZOLE*) was prescribed to normalize thyroid hormone levels (T3, T4, TSH) prior to surgery.

Table 2: Reasons for consultation.

Actual reasons Percentages (%)	Actual reasons Percentages (%)	Percentages (%)
Low anterior cervical swelling	31	39,2
Unilateral submandibular swelling	14	17,7
Lateral cervical swelling	13	16,4
Unilateral parotid swelling	13	16,4
Upper anterior cervical swelling	8	10,3
Total	79	100

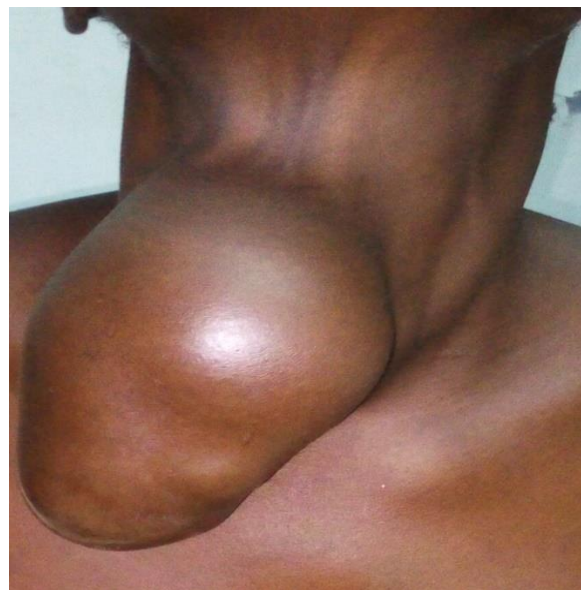


Photo 1: Low anterior cervical mass.

Treatment and evolution: After anesthetic advice, all patients were treated surgically under general anesthesia by different approaches to cervicotomy as shown in [Figure 1](#) and [Photo 2](#). Partial thyroidectomy was the most common (27.6%), followed by submaxillectomy, lipoma removal and thyroglossal tract cysts as shown in [Figure 1](#). Postoperative outcomes were complicated by dysphonia (2.8%) related to thyroid surgery and unsightly scarring (27.6%). Histological analysis of the operative specimens confirmed the diagnosis as shown in [Table 3](#).

Table 3: Histological types and ultrasound features.

Histological types	Ultrasound aspects			p-value
	Hypo-echoic N (%)	Hyper-echoic N (%)	Total N (%)	
Colloidal goiter	1 (1,4)	30 (38,3)	31 (39,5)	0,6
Pleiomorphic adenoma	0	24 (30,4)	24 (30,4)	
Lipoma	13 (16,4)	0	13 (16,4)	
Benign cyst	0	8 (9,5)	8 (9,5)	
Monomorphic adenoma	0	3 (4,2)	3 (4,2)	
Total	14 (17,8)	65 (82,2)	79 (100)	

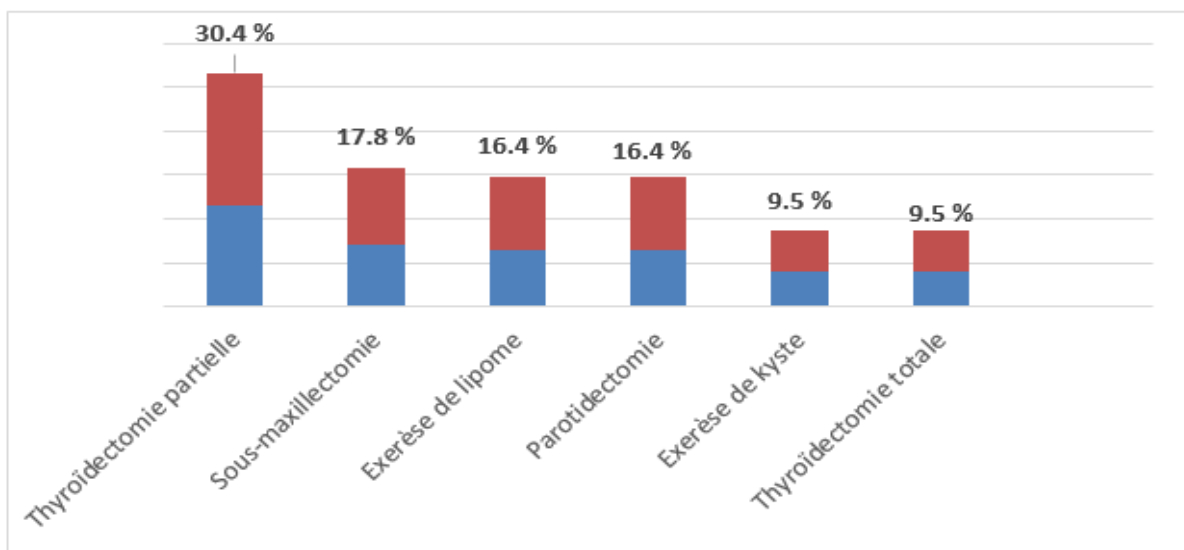


Figure 1: Types of surgical treatment.



Photo 2: Exposure of a thyroid nodule

DISCUSSION

Benign neck tumors are common in our practice in Brazzaville and account for nearly half of all ENT and cervicofacial tumors. Most authors report a predominance of women and an average age of 37 years, as in our

study [7,8]. Aughen et al report that all benign neck tumors present as a budding lesion in different neck locations [9]. In the present study, anterior neck swellings came first, followed by lateral localizations whose ultrasound appearance was either hypoechoic for lipomas or hyperechoic for other solid tumors and cervical cysts. According to Pemayun et al, these benign tumors are not accompanied by general signs or pain, except in some cases of large compressive thyroid nodules [10] or superinflected cysts of the thyroglossal tract [12]. In this study, several types of benign tumors were considered in different locations, namely: colloidal goiters, pleomorphic and monomorphic adenomas of the submandibular and parotid glands, cervical lipomas, and cysts of the thyroglossal tract. Although the diagnosis is guided by ultrasound, however confirmation remained after histological analysis after surgery because biopsies are not contributory especially in cases of thyroid nodules and cervical cysts or lipomas. In this type of situation, only the excision of the lesion was performed and subjected to histological analysis. The exercise of thyroid nodules concerned only the diseased lobe, while that of cysts and lipomas was complete according to the different surgical approaches. Many authors report that the classic routes of cervical surgery are anterior, high or low, and lateral, depending on whether they are the submandibular and jugulocarotid regions [13-15]. All these procedures were performed under general anesthesia and the postoperative effects were mostly simple, except for a few cases of dysphonia related to thyroid surgery and keloid scars, especially on black skin. Some authors have reported that black skin is very susceptible to wound healing disorders leading to keloids while others justify this anomaly by the quality of the sutures made by large threads not adapted to thin skin [16-18]. However, dysphonia is a complication that occurs when there is damage to the inferior laryngeal nerve during its dissection during the removal of the thyroid gland. The two cases of dysphonia encountered in this series were found after total thyroidectomy for Graves' disease. In this pathology, chronic inflammation of the thyroid parenchyma creates rearrangements that can modify the path of the inferior laryngeal nerve and make dissection difficult. This requires great vigilance during the procedure as well as rigorous post-operative monitoring of breathing and voice.

CONCLUSION

Benign neck tumors are common in adults in our practice. They are diverse in nature and hyper-echoic thyroid nodules come first, followed by salivary gland adenomas, lipomas and cervical cysts. Treatment is surgical by complete ablation and histological analysis of the operative specimen remains mandatory. Post-surgical complications are rare and represented by keloids and dysphonia related to thyroid surgery.

CONFLICTS OF INTEREST: authors do not declare any conflicts of interest

PARTICIPATION:

- Title and introduction: Otouana Dzon HB;
- Patients, methods and results: Otouana Dzon HB, Ngouoni GC, Tsierie-Tsoba A;
- Discussion and references: Otouana Dzon HB, Ondzotto GW, Ngouoni GC, Itiéré-Odzili FA, Ondzotto G.

REFERENCES

1. [Katabi N, Sukhadia P, DiNapoli SE, Weinreb I, Hahn E, Ghossein R. Expanding the histological spectrum of salivary gland neoplasms with HMGA2/WIF1 fusion emphasising their malignant potential: a report of eight cases. *Histopathology*. 2024;84\(2\):387-98.](#)
2. [Hernandez-Prera JC, Saeed-Vafa D, Heidarian A, Gewandter K, Otto K, Wenig KB. Sclerosing polycystic adenoma: conclusive clinical and molecular evidence of its neoplastic nature. *Head Neck Pathol*. 2022;16\(2\):416-26.](#)
3. [Pettersson F. Sclerosing polycystic adenoma-a review. *Ann Diagn Pathol*. 2022;59\(4\):15194-9.](#)
4. WHO. Classification of Tumours Editorial Board Head and neck tumours [Internet; beta version ahead of print] International Agency for Research on Cancer, Lyon (France) (2022) (WHO classification of tumours series, 5th ed., vol. 9).
5. [Castellnou S, Maillard L, Lifante L, Borson Z. Motifs de thyroïdectomie pour goitre ou nodule thyroïdien: étude prospective chez 351 patients adressés en consultation chirurgicale dans un centre expert. *Ann Diagn Pathol*. 2022;59\(4\):15194-9.](#)
6. [Rooper LM, Agaimy A, Assaad A, Bal A, Eugene T, Gagan J. Recurrent IDH2 mutations in salivary gland striated duct adenoma define an expanded histologic spectrum distinct from canalicular adenoma. *Am J Surg Pathol*. 2023;47\(4\):333-43.](#)
7. [Skálová A, Agaimy A, Stanowska O, Baneckova M, Ptáková N, Ardighieri L. Molecular profiling of salivary oncocyctic mucoepidermoid carcinomas helps to resolve differential diagnostic dilemma with low-grade oncocyctic lesions. *Am J Surg Pathol*. 2020;44\(3\):1612-22.](#)
8. [Haugen BR, Alexander EK, Bible KC, Doherty GM, Mandel SJ, Nikiforov YE, et al. The American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid*. 2016;26\(1\):1-133.](#)
9. [Pemayun TG. Current Diagnosis and Management of Thyroid Nodules. *Acta Med Indones*. 2016;48\(3\):247-257.](#)
10. [Bomeli SR, LeBeau SO, Ferris RL. Evaluation of a thyroid nodule. *Otolaryngol Clin North Am*. 2010;43\(2\):229-38, vii.](#)
11. [Durante C, Costante G, Lucisano G, Bruno R, Meringolo D, Paciaroni A, et al. The natural history of benign thyroid nodules. *JAMA*. 2015;313\(9\):926-35.](#)
12. [Popoveniuc G, Jonklaas J. Thyroid nodules. *Med Clin North Am*. 2012;96\(2\):329-49.](#)
13. [Welker MJ, Orlov D. Thyroid nodules. *Am Fam Physician*. 2003;67\(3\):559-66.](#)
14. [Yeung MJ, Serpell JW. Management of the solitary thyroid nodule. *Oncologist*. 2008;13\(2\):105-12.](#)
15. [Dean DS, Gharib H. Epidemiology of thyroid nodules. *Best Pract Res Clin Endocrinol Metab*. 2008;22\(6\):901-11.](#)
16. Enziger FM, Weiss SW. Liposarcoma. Soft tissue tumors. Mosby-Year Book edit., St Louis. 2021;431-66.
17. Marques MC, Garcia H. Lipomatous Tumors. In: De Schepper AM. Imaging of Soft Tissue Tumors. Springer edit., Berlin. 2007:191-207.

18. [Cohen A, Rovelli A, Merlo DF, van Lint MT, Lanino E, Bresters D, et al. Risk for secondary thyroid carcinoma after hematopoietic stem-cell transplantation: an EBMT Late Effects Working Party Study. J Clin Oncol. 2007;25\(17\):2449-54.](#)