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Retropharyngeal Lymph Node Metastases in Papillary Thyroid Carcinoma: A Case Series and Literature Review

Metástases Retrofaríngeas no Carcinoma Papilar da Tiroide: Série de Casos e Revisão da Literatura

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ABSTRACT

Introduction: The prevalence of retropharyngeal lymph node metastases in papillary thyroid carcinoma is low. The objective of this retrospective study was to assess our institutional experience with the management of such metastases and to compare results with other published series.

Methods: We conducted a retrospective analysis of patients diagnosed with papillary thyroid carcinoma and retropharyngeal lymph node metastases who were followed at the Endocrinology Department of the Instituto Português de Oncologia de Lisboa Francisco Gentil. To identify published cases in the literature, a comprehensive search was conducted using the Medline and PubMed databases from January 1970 to June 2025.

Results: We have identified a total of 15 patients. Twelve (80.0%) were women. The median age at initial surgery was 55.7 years (range 20.6 - 84.0 years) and the median duration of follow-up was 9.8 years (range 0.5 - 36.3 years). Five patients (33.3%) were diagnosed with retropharyngeal lymph node metastases during initial tumor staging and 10 (66.7%) in the follow-up, in eight patients (80.0%) due to biochemical persistence of the disease, and in two (20.0%) after cervical lymph node recurrence. Of the 15 patients, seven (46.7%) received no treatment for retropharyngeal lymph node metastases (surveillance group), and eight (53.3%) were treated (therapy group) and, from these, four (26.7%) underwent surgery, two (13.3%) received radiotherapy, one (6.7%) underwent radiosurgery and one (6.7%) underwent both surgery and radiotherapy.

Conclusion: Most patients with retropharyngeal lymph node metastases are diagnosed post-thyroidectomy, due to biochemical persistence of the disease or cervical lymphatic recurrence. Retropharyngeal lymph node metastases are commonly single and located ipsilaterally to the primary tumor and co-occur frequently with distant metastases.

Keywords: Carcinoma, Papillary; Pharyngeal Neoplasms; Thyroid Cancer, Papillary/secondary

RESUMO

Introdução: A prevalência de metástases retrofaríngeas no carcinoma papilar da tiroide é baixa. O objetivo deste estudo retrospetivo foi avaliar a nossa experiência institucional na gestão destas metástases e comparar os resultados com outras séries publicadas.

Métodos: Foi realizada uma análise retrospetiva de doentes com carcinoma papilar da tiroide e metástases no espaço retrofaríngeo, seguidos no Serviço de Endocrinologia do Instituto Português de Oncologia de Lisboa Francisco Gentil. Para identificar casos publicados na literatura, foi realizada uma pesquisa bibliográfica nas bases de dados Medline e PubMed, de janeiro de 1970 a junho de 2025.

Resultados: Foram identificados 15 doentes, dos quais 12 (80,0%) eram do sexo feminino. A idade mediana na primeira cirurgia foi de 55,7 anos (amplitude 20,6 - 84,0 anos), e a mediana do tempo de seguimento foi de 9,8 anos (amplitude 0,5 - 36,3 anos). Em cinco doentes (33,3%) foram identificadas metástases retrofaríngeas durante o estadiamento inicial e em 10 (66,7%) durante o seguimento, sendo que, em oito doentes (80,0%), o diagnóstico ocorreu devido a persistência bioquímica da doença, e em dois (20,0%) após recorrência de doença nos gânglios linfáticos cervicais. Dos 15 doentes, sete (46,7%) não receberam tratamento para as metástases retrofaríngeas (grupo de vigilância), e oito (53,3%) foram tratados (grupo de tratamento). Destes, quatro (26,7%) foram submetidos a cirurgia isolada, dois (13,3%) receberam radioterapia isolada, um (6,7%) foi submetido a radiocirurgia e um (6,7%) realizou cirurgia e radioterapia.

Conclusão: A maioria dos doentes com metástases retrofaríngeas é diagnosticada após a tiroidectomia total, devido à persistência bioquímica da doença ou recorrência linfática cervical. As metástases nos gânglios linfáticos retrofaríngeos são geralmente únicas, localizadas ipsilateralmente ao tumor primário e ocorrem frequentemente em simultâneo com metástases à distância.

Palavras-chave: Carcinoma Papilar; Carcinoma Papilar da Tiróide/secundário; Neoplasias Faríngeas

KEY MESSAGES

- Retropharyngeal lymph node metastases in papillary thyroid carcinoma are rare and most often diagnosed after thyroidectomy, due to biochemical persistence or cervical recurrence.
- These metastases are usually solitary, located ipsilaterally to the primary tumor, and frequently associated with distant metastases.
- Management of these patients is complex and should be individualized, with options ranging from active surveillance to therapeutic interventions such as surgery, radiotherapy, or a combination of both.
- The main limitation of this study is the small number of patients, inherent to the rarity of this condition.

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INTRODUCTION

Papillary thyroid carcinoma (PTC) is the predominant histological subtype of differentiated thyroid carcinoma. Despite its favorable prognosis, generally with minor impact on survival, the presence of cervical lymph node metastases (CLNM) influences the course of the disease and treatment outcomes, as it increases the risk of postoperative recurrence, especially in younger patients.[1-3]

At the time of initial diagnosis, it is estimated that 30% - 80% of patients exhibit CLNM. The extension of PTC into the lymph nodes typically follows a consistent and predictable pattern, with the central compartment (level VI) being the primary site of lymph node involvement, followed by the lateral compartment (level III to V) and the superior mediastinal compartment (level VII).[4-6]

The retropharyngeal space (RS) extends from the clivus to the upper mediastinum. It lies anteriorly to the prevertebral muscles, posteriorly to the pharynx and esophagus and medially to the carotid space. Classically, it is divided into the suprahyoid and infrahyoid RS, each with different contents. The suprahyoid RS contains fat and lymph nodes, whereas the infrahyoid RS contains only fat and, thus, can be involved only by non-nodal disease. Small normal lymph nodes may be present in healthy patients, usually measuring < 1 cm in short axis diameter.[4,7]

Based on case reports and small series, the incidence of retropharyngeal lymph node metastases (RFLNM) in patients with PTC is estimated to be 0.28% - 5%.[5,8]

However, given the widespread use of imaging in patients with PTC and high serum thyroglobulin (Tg) levels, it is expected that the incidence of RFLNM is likely to increase.[5]

Additionally, in the 8th edition of the AJCC/TNM staging system of thyroid cancer, RFLNM are now staged as N1b, alongside metastasis to lateral neck lymph nodes,[9,10] because they affect survival rates in a similar fashion to lateral neck lymph node metastases.

However, the efficacy of surgical or non-surgical interventions in RFLNM has not been definitively established and it is important to balance between the potential benefits of treatment and the anticipated post-therapy quality of life. Complete surgical removal is the only curative treatment and is typically the treatment of choice. However, intraoperative injury of cranial nerves and vessels during dissection may lead to serious complications.

Considering that non-surgical approaches usually do not provide a cure for patients, their primary objective is to minimize symptoms and halt the progression of locoregional disease. There are three main modalities of nonsurgical therapy: radioactive iodine (RAI), external beam radiation therapy (EBRT), and systemic therapy.

The aim of this retrospective was to assess the prevalence of PTC-RFLNM in our institution and to compare results with the published series.

METHODS

Case series

We conducted a retrospective analysis of patients followed at the Endocrinology Department of the Instituto Português de Oncologia de Lisboa Francisco Gentil, with a diagnosis of PTC with RFLNM.

Patients were identified through a computerized search, looking for the word “retropharyngeal”, in the reports of cervical computed tomography (CT) scans performed during a period of eight years, between January 2015 and January 2023. From a total of 651 reports, 26 patients were identified with a neoplasia diagnosis of thyroid origin and retropharyngeal adenopathy compatible with metastasis. Eleven patients were excluded: two due to the diagnosis of another active synchronous neoplasm, two due to a histological diagnosis of anaplastic carcinoma, five due to histological diagnosis of medullary thyroid carcinoma and two due to histological diagnosis of oncocytic thyroid tumor (formerly Hürthle cell tumor), resulting in a total of 15 patients.

Literature review

To determine the cases published in the literature, a comprehensive search was conducted using Medline and PubMed databases, from January 1970 to June 2025. Search terms included “retropharyngeal lymph node metastasis” & “thyroid”, “papillary thyroid carcinoma” & “retropharyngeal” and “well-differentiated thyroid cancer” & “retropharyngeal”. Publications were considered relevant if they met the following inclusion criteria: (a) cases of PTC with RFLNM; (b) full text available; (c) written in English. Publications were excluded if: (a) it was not clearly defined whether the metastasis was to the retropharyngeal space rather than to the parapharyngeal space; (b) included other types of thyroid carcinoma (follicular, Hürthle cells, medullary, poorly differentiated, and anaplastic thyroid carcinomas); (c) if patients had synchronous tumors of other organs and no histologic confirmation of retropharyngeal metastasis.

Statistical analysis

Categorical variables are presented as absolute numbers and percentages. Continuous data are presented as medians and ranges. Qualitative data are described as frequencies and percentages. Continuous data were visually inspected with histograms/boxplots and did not follow a normal distribution. Therefore, comparisons between groups were performed with the Mann-Whitney U test for continuous variables. For categorical variables, Fisher’s exact test was used. All analyses were performed using SPSS

software v. 26. A *p* value of ≤ 0.05 was considered statistically significant.

Etics statement

This study was conducted in compliance with the Helsinki Declaration and was approved by the Ethics Committee of our Institution. Written informed consent was waived because of the retrospective nature of the study. The analysis used anonymous clinical data.

RESULTS

Patient clinical and pathological characteristics

We present a total of 15 patients with a history of PTC and RFLNM. Twelve were women (80.0%). The median age at initial surgery was 55.7 years (range 20.6 - 84.0 years), with seven (46.7%) below 55 years; five (33.3%) were diagnosed with RFLNM during initial tumor staging and 10 (66.7%) in the context of recurrent or persistent disease. Out of the 10 patients in the recurrence/persistent group, eight (80.0%) were diagnosed due to biochemical persistence of the disease, and two (20.0%) following imaging staging of cervical lymph node recurrence. The median duration of follow-up was 9.8 years (range 0.5 - 36.3 years) and patients with recurrence had a longer follow-up of 13.0 years (range 4.2 - 36.3 years) than patients diagnosed with upfront RFLNM, with 2.9 years (range 0.5 - 6.0 years). All patients (n = 15) underwent total thyroidectomy, and 10 patients (66.7%) central/lateral neck dissection. All patients had PTC, 10 (66.7%) were classical subtype, two (13.3%) tall-cell subtype, one (6.6%) unspecified follicular subtype and two (13.3%) were of an unknown subtype. The median size of the primary tumor was 32 mm (range 8 - 75 mm), multifocal tumors were present in five patients (33.3%), lymphovascular invasion and capsule invasion were each present in nine patients (60%). In our series, 10 patients (66.7%) had distant metastasis: three patients (20.0%) had lung metastasis diagnosed before RFLNM, four patients (26.7%) had synchronous diagnosis of distant metastasis (three with lung and one with bone), and three patients (20.0%) developed distant metastasis (two with lung and one with both lung and bone) after the RFLNM diagnosis.

Characteristics

One patient (6.7%) had bilateral RFLNM and 14 (93.3%) had a single RFLNM. Retropharyngeal lymph node metastases were ipsilateral to the primary tumor in 11 patients (73.3%). The main imaging modality used for diagnosis was CT scan (11 patients, 73.3%), followed by PET FDG (three patients, 20.0%) and MRI (one patient, 6.7%). The median maximum diameter of RFLNM was 15 mm (range 5 - 56 mm).

Therapeutic approach

Of the 15 patients, 14 (93.3%) received treatment with iodine-131 (I^{131}), as part of the treatment for the primary tumor. Of the 15 patients, seven (46.7%) received no treatment for RFLNM (surveillance group), and eight (53.3%) were treated (therapy group) and, from these, four (26.7%) underwent surgery alone, two (13.3%) received radiotherapy alone, one (6.7%) underwent radiosurgery and one (6.7%) underwent both surgery and radiotherapy.

In the five patients operated on RFLNM, a cervical approach was used and no complications were recorded. However, in the patient with a large RFLNM (49 x 25 x 15 mm) residual disease persisted, which was stable at the last follow-up CT scan. One of the patients treated with radiosurgery developed transient pharyngitis and dysgeusia.

In the surveillance group, two patients started treatment with lenvatinib in response to progression of pulmonary disease, and in one a favorable radiological response was observed in the RFLNM.

In the surveillance group, the median size of the RFLNM was 12 mm (range 5 - 32 mm) whereas in the therapy group the median size was 21 mm (range 11 - 56 mm), $p = 0.082$. The median age in the surveillance group was 48.5 years (range 20.6 - 58.1 years) and 69.5 years (range 41.0 - 84.0 years) in the therapy group, $p = 0.029$.

Outcomes at the end of follow-up

Our case series has three (20.0%) deaths to report during follow-up: one patient died at the age of 79, 13 years after the diagnosis of PTC, as a result of extensive poorly differentiated nodal recurrence, which occurred in anatomical regions other than the retropharyngeal space, one patient died at the age of 85, 38 years after the diagnosis of PTC, due to the progression of bone, lung, and retropharyngeal disease and one patient died at the age of 84 due to esophageal carcinoma, which might be a complication of cervical radiotherapy for the treatment of PTC-RFLNM performed six years before.

Additionally, at the last clinical evaluation, eight (53.3%) patients had stable structural disease (five patients with distant metastasis, 62.5%), two (13.3%) patients had biochemical evidence of disease, and two (13.3%) patients had no evidence of disease (Table 1).

Literature review

By June 2025, a total of 170 cases of PTC-RFLNM had been published.[5,6,8,10-21]

Most cases were published in the form of case series (Table 2), with only five being documented as case reports.[22-26]

The analysis of all reported cases is challenging: due to the frequent inclusion of heterogeneous histological

subtypes of thyroid carcinoma by various authors, as well as the inconsistent or indiscriminate grouping of parapharyngeal and retropharyngeal metastases.

DISCUSSION

We have identified a total of 15 patients. Twelve (80.0%) were women. The median age at initial surgery was 55.7

Table 1 – Clinical and pathological characteristics of patients with PTC-RFLNM (section 1 of 2)

	Total (n = 15)	**Surveillance group** (n = 7)	**Therapy group** (n = 8)	***p*-value**
Patients total, n (%)	15 (100)	7 (47)	8 (53)	
Age (years)				0.029
Median	55.7	48.5	69.5	
IQR	31.0	20.9	27.5	
Minimum	20.6	20.6	41.0	
Maximum	84.0	58.1	84.0	
Sex				0.569
Female	12 (80)	5 (71)	7 (88)	
Male	3 (20)	2 (29)	1 (13)	
Follow-up (years)				0.867
Median	9.8	9.1	11.0	
IQR	12.9	14.2	11.9	
Minimum	0.5	0.5	1.0	
Maximum	36.3	36.3	19.5	
Surgery, n (%)				
Total thyroidectomy	15 (100)	7 (100)	8 (100)	1.000
Neck dissection, n (%)				0.492
None	5 (33)	1 (14)	4 (50)	
Central	3 (20)	2 (29)	1 (13)	
Central + Unilateral	6 (40)	4 (57)	2 (25)	
Central + Bilateral	2 (13)	1 (14)	1 (13)	
Subtype of PTC, n (%)				0.188
Classical	10 (67)	6 (86)	4 (50)	
Tall-cell	2 (13)	0 (0)	2 (25)	
Unspecified follicular subtype	1 (7)	0 (0)	1 (13)	
Unknown	2 (13)	1 (14)	1 (13)	
Size (mm)				0.830
Median	32.0	28.5	33.0	
IQR	23.0	31.0	27.0	
Minimum	8.0	8.0	10.0	
Maximum	75.0	75.0	44.0	
Focality, n (%)				0.592
Focal	8 (53)	3 (43)	5 (63)	
Multifocal	5 (33)	3 (43)	2 (25)	
Unknown	2 (13)	1 (14)	1 (13)	
Lymphovascular invasion, n (%)				1.000
Yes	9 (60)	4 (57)	5 (63)	
No	4 (27)	2 (29)	2 (25)	
Unknown	2 (13)	1 (14)	1 (13)	

RFLNM: retropharyngeal lymph node metastases; CT: computed tomography; MRI: magnetic resonance imaging; PET: positron emission tomography; I^{131}: radioactive iodine

years (range 20.6 - 84.0 years) and the median duration of follow-up was 9.8 years (range 0.5 - 36.3 years). Five patients (33.3%) were diagnosed with retropharyngeal lymph node metastases during initial tumor staging and 10 (66.7%) in the follow-up, in eight patients (80.0%) due to biochemical persistence of the disease, and in two (20.0%) after cervical lymph node recurrence. Of the 15 patients, seven (46.7%) received no treatment for retropharyngeal lymph node metastases (surveillance group), and eight (53.3%) were treated (therapy group) and, from these, four (26.7%) underwent surgery, two (13.3%) received radiotherapy, one (6.7%) underwent radiosurgery and one (6.7%) underwent both surgery and radiotherapy.

Table 1 – Clinical and pathological characteristics of patients with PTC-RFLNM (section 2 of 2)

	Total (n = 15)	**Surveillance group** (n = 7)	**Therapy group** (n = 8)	***p*-value**
Capsule invasion, n (%)				1.000
Yes	9 (60)	5 (71)	4 (50)	
No	4 (27)	2 (29)	2 (25)	
Unknown	2 (13)	1 (14)	1 (13)	
Extrathyroidal extension, n (%)				1.000
Yes	8 (53)	4 (57)	4 (50)	
No	4 (27)	3 (43)	1 (13)	
Unknown	1 (7)	1 (14)	0 (0)	
Surgical margins, n (%)				0.380
R0	9 (60)	4 (57)	5 (63)	
R1	4 (27)	2 (29)	2 (25)	
R2	1 (7)	1 (14)	0 (0)	
Unknown	2 (13)	1 (14)	1 (13)	
RFLNM size (mm)				0.082
Median	15.0	12.0	21.0	
IQR	17.0	8.0	30.0	
Minimum	5.0	5.0	11.0	
Maximum	56.0	32.0	56.0	
Time of RFLNM diagnosis, n (%)				0.608
Initial presentation	5 (33)	3 (43)	2 (25)	
Recurrent disease	10 (67)	4 (57)	6 (75)	
RFLNM location, n (%)				0.569
Ipsilateral	11 (73)	5 (71)	6 (75)	
Contralateral	3 (20)	2 (29)	1 (13)	
Bilateral	1 (7)	0 (0)	1 (13)	
Imaging for RFLNM detection, n (%)				
CT	11 (73)	6 (86)	5 (63)	0.569
MRI	1 (7)	1 (14)	0 (0)	0.467
PET	3 (20)	0 (0)	3 (38)	0.200
Therapy, n (%)				
I131	14 (93)	7 (100)	7 (88)	1.000
Surgery	4 (27)	0 (0)	4 (50)	
Radiotherapy	2 (13)	0 (0)	2 (25)	
Radiosurgery	1 (7)	0 (0)	1 (13)	
Radiotherapy + Surgery	1 (7)	0 (0)	1 (13)	

RFLNM: retropharyngeal lymph node metastases; CT: computed tomography; MRI: magnetic resonance imaging; PET: positron emission tomography; I^{131}: radioactive iodine

Table 2 – Series of PTC with RFLNM published in the literature

Case series	Country	Number of cases	Year	Diagnosis at initial presentation/ recurrence
McCormack *et al*[6]	USA	2	1970	0/2
Leger *et al*[13]	France	4	2000	0/4
Otsuki N *et al*[11]	Japan	5	2007	0/5
Le *et al*[14]	USA	6	2007	2/4
Shellenberger *et al*[15]	USA	2	2007	0/2
Kaplan *et al*[16]	USA	3	2009	0/3
Kainuma K *et al*[17]	Japan	3	2011	1/2
Moore *et al*[18]	USA	2	2011	0/2
Fornage *et al*[19]	USA	3	2014	0/3
Togashi T *et al*[20]	Japan	12	2014	7/5
Hartl DM *et al*[12]	France	5	2015	0/5
Otsuki N *et al*[10]	Japan	16	2019	7/9
Sandler M *et al*[4]	USA	7	2020	4/3
Harries V *et al*[5]	USA	55	2020	10/45*
Chen S *et al*[21]	China	6	2022	5/1
Zhao J *et al*[3]	China	34	2024	7/27
Pina *et al*	Portugal	15	2025	5/10

*: data extrapolated, not directly available.
USA: United States of America

Mechanisms of metastatic spread to the retropharyngeal space

The mechanism behind the metastatic spread to this region remains poorly explained. However, two lymphatic pathways are present in this region. One pathway involves the jugular chain lymphatics, while the other involves the posterosuperior collecting vessel, present in 20% of the cases, which connects the upper posterior portion of the thyroid gland to the RS.[4,11,17] This anatomical connection may provide a direct route for lymphatic spread to the RS.

In our series, nine out of 15 patients (60.0%) had lymphovascular invasion at the time of total thyroidectomy, and 11 out of 15 patients (73.3%) had involvement of the ipsilateral lymph nodes, which could potentially justify the dissemination to the RS.

Additionally, previous studies have suggested that metastatic cervical lymph nodes or neck dissection procedures could potentially modify the flow of lymphatic drainage, leading to atypical metastasis in the retropharyngeal space, justifying most cases being diagnosed years after primary PTC surgery and cervical lymph node dissection.[11]

Diagnosis and imaging limitations

Since, in most patients with PTC, initial staging is usually performed with neck ultrasound, PTC-RFLNM are rarely detected due to its location deep in the neck. Most RFLNM are, indeed, detected by CT scan in cases of recurrent or persistent disease.[2,17,27] Out of the 170 published cases, only 45 (26.5%) were diagnosed at initial presentation.[11,12] This is also the case in our series, where five patients (33.3%) were diagnosed at the initial primary tumor staging and 10 (66.7%) in the context of recurrent or persistent disease.

These findings underscore the importance of including cross-sectional imaging in the evaluation of high-risk patients or those with unexplained biochemical persistence of disease.

Clinical features and biological behavior

In our series, none of the patients presented with clinical symptoms directly related to PTC-RFLNM. Furthermore, none of the patients exhibited signs of invasion of surrounding structures. However, there are reports of symptoms such as neck pain, syncope, and lower cranial nerve paralysis.[6,10] It is worth noting that, in our series, the main source of morbidity derived from progression of distant disease rather than from RFLNM progression/complications.

A noteworthy observation in our study is the high frequency of concurrent distant metastases (60%). While prior series report this association in 12.5% - 23.1% of cases,[4,5,10] our findings suggest that RFLNM may serve as a potential indicator of biologically aggressive disease or altered dissemination patterns.

Therapeutic implications

Management of RFLNM must be individualized. According to the literature, surgery remains the cornerstone

of treatment for patients with resectable RFLNM metastases. In situations where complete resection is not possible – such as in cases of unresectable disease, significant comorbidities, or unfavorable anatomical involvement – I^{131} therapy may be employed as an adjuvant or alternative modality. External-beam radiotherapy may also be considered in selected patients, particularly those with residual disease, non–iodine-avid metastases, or when surgery is contraindicated.[5,8,12]

Despite the limited number of cases, our findings suggest that certain clinical and pathological features may help guide the decision between active surveillance and intervention. Patients with small (< 15 mm), asymptomatic RFLNM and no evidence of progression over time may be good candidates for conservative management. In our case series, the surveillance group had a median size of PTC-RFLNM of 12 mm (*vs* 21 mm in the therapy group, $p = 0.082$).

Surgical resection of RFLNM is challenging due to the deep anatomical location and proximity to critical neurovascular structures. Approaches such as transoral robotic surgery and modified transcervical access have been described but carry non-negligible morbidity. Therefore, intervention is usually reserved for symptomatic lesions, progressive enlargement, or diagnostic uncertainty. Importantly, in our series, morbidity was predominantly related to distant metastatic disease rather than progression of RFLNM itself, reinforcing the need to tailor treatment to overall disease burden and progression.

Although our study was not designed to formally develop a predictive model, future multicenter studies may help identify independent predictors of progression or therapeutic response. Potential variables include RFLNM size, histological subtype (particularly aggressive variants of PTC), presence of lymphovascular invasion, timing of detection (initial staging *versus* recurrence), and coexistence of distant metastases. The development of such models could provide a valuable tool to support clinical decision-making in this rare but complex scenario.

CONCLUSION

In summary, RFLNM are an uncommon but clinically relevant manifestation of metastatic PTC. Most patients with RFLNM are diagnosed post-thyroidectomy, due to biochemical persistence of the disease or cervical lymphatic recurrence. Retropharyngeal lymph node metastases are commonly single and located ipsilaterally to the primary tumor and frequently co-occur with distant metastases. Diagnosis requires a high index of suspicion and appropriate cross-sectional imaging. While small, asymptomatic lesions can be managed conservatively, the presence of RFLNM may reflect a more aggressive tumor biology and warrants close multidisciplinary evaluation.

Future studies, ideally multicenter and with larger sample sizes, are needed to develop predictive models capable of stratifying patients according to the risk of progression and identifying those who will most likely benefit from active treatment *versus* surveillance.

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The authors have declared that no AI tools were used during the preparation of this work.

AUTHOR CONTRIBUTIONS

HP, DC, RN: Study conception and design, writing of the manuscript.

VL: Writing and critical review of the manuscript.

All authors approved the final version to be published.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in October 2024.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

CONFLICTS OF INTEREST

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

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