

Papillary Carcinoma Of The Thyroid

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Abstract: *The objective of our study was to study the different diagnostic and therapeutic aspects of papillary thyroid cancers. To this end, we have collected and processed the data 80 cases with papillary carcinoma. Papillary cancer is the most common histological type, accounting for 85% of thyroid cancers. The age of the patients at the time of diagnosis varies between 22 and 74 years with an average age of 40.5 years. The female predominance is obvious; our series consists of 68 women and 12 men with a sex-ratio F/H= 5.6. The most common clinical manifestation is the thyroid nodule. Lymph node extension is noted in 14 patients or 17.5%. The extemporaneous examination was performed in 12 patients returning positive in all 08 cases. Cervical ultrasound was performed in all patients with TIRADS score study, with a predominance of TIRADS 4 nodules representing 23% of cases, compared to 11% TIRADS 5, 9% TIRADS 3. The cervical scan was performed in 20 patients (10%), the Scintigraphy was performed in two patients, and thyroid fine needle aspiration was performed in 30 patients. On the therapeutic level, we performed 26 total thyroidectomies (35.5% of cases), including 4 accompanied by lymph node dissection. 30 isthmolobectomies (37.5% of cases), and 18 totalisation (22.5% of cases) after final histological examination. Irradiation was prescribed to patients who have had a total thyroidectomy. Hormonal therapy for Frenatrice was prescribed after total thyroidectomy. Post-operative follow-up was simple in the majority of cases, apart from one: Hypocalcemia found in 12 patients placed on calcium supplementation. 04 cases of bilateral recurrent paralysis and 14 cases of lymph node recurrence and 02 cases of recurrence at the level of the thyroid compartment requiring surgical revision.*

Keywords: papillary carcinoma, TIRADS, surgery, lymph node dissection, active radio iodine .

Introduction :

Papillary thyroid carcinoma is a malignant epithelial tumour, consisting of cells with vesicular differentiation, papillary and vesicular architecture, with characteristic nuclear alterations. It is by far the most common of thyroid malignant tumors (85%) [1,3,4,5], it occurs at any age, with a clear female predominance [1,3,4], good prognosis if the management is well conducted early. The incidence in Morocco is estimated at 0.6/100,000 [1], the apparent increase in incidence in recent years should be interpreted in the light of progress in screening and improvement of pathology techniques identifying better occult microcarcinomas on parts of total thyroidectomy [2,4,5]. The management of papillary carcinomas requires a discussion in a multidisciplinary consultation meeting to determine the level of risk and the appropriate treatment [6].

The aim of our study is to specify the epidemiological profile, the clinical expression, histological diagnosis, therapeutic means, as well as the course and prognosis of papillary carcinoma of the thyroid, in comparing our results with those of recent data in the literature.

Methods :

This is a retrospective study spread over 8 years; from January 2012 to December 2019, involving 80 patients in the ORL department of CHU Hassan II of Fez, for papillary thyroid carcinoma. We retained as inclusion criteria: Patients, men and women of all ages treated for carcinoma papillary thyroid gland in the ORL department of the Hassan II University Hospital in Fez and after pathological confirmation. Clinical, paraclinical information and evolutionary were collected from records, and follow-up of patients in consultation after having developed a questionnaire including the different variables required for our study. The statistical analysis was performed using the SPSS software.

Results:

Our series shows a clear female predominance with 85% women and 15% of men. The average age for men is 40.5 years, with extremes ranging from 22 to 74 years. [Table 1] .The concept of cervical irradiation has not been found in any patient. The reason for most frequent consultation is an anterior cervical mass moving to the swallowing in 78 patients (97% of cases) and associated with signs of to evoke the malignancy of type dysphagia, dyspnea and dysphonia in 12 patients (15% of cases).

The average consultation time was more than 2 years in 60% of cases.

Clinical examination found thyroid nodules in 78 patients or 97.5% of cases (Figure 1). Satellite lymphadenopathy was found in 14 patients or 17.5% of cases.

Cervical ultrasound was performed in all patients, The ultrasound nodule size was between 14 and 75 mm long axis. Hypoechoic nodules are more frequent and represent 28% with the presence calcification in 38 patients (36%) and Lymphadenopathy was found in 14 patients, or 13% of cases. concerning the TIRADS score, our results showed a predominance of TIRADS 4 nodules which represent 23% of cases, against 11% TIRADS 5, 9% TIRADS 3. and. The cervical scanner with iodine contrast injection (figure 2) was performed in 20 patients (10%), whenever it is a large, sinking, compressive, or evoking malignancy. Scintigraphy was performed in two patients, and the Thyroid fine needle aspiration was performed in 30 patients, it allowed detected 6 out of 10 malignant nodules, i.e. a sensitivity of 58.33%. And of the 20 benign nodules on histological examination, 16 were at cytopuncture, a specificity of 88.46%.

Regarding our therapeutic strategy, we have achieved a total thyroidectomy in 26 patients (35.5% of cases) with extemporaneous in 20 patients,

1 isthmolobectomies in 30 patients (37.5% of cases), of which 18 patients (22.5% of cases), received a surgical revision after final histological examination.

Lymph node curage was performed in 12 patients (11% of cases) in the presence of clinical and/or radiological lymphadenopathy and after extemporaneous examination. Of these, 8 benefited from a recurrent lymph node curage homolateral to the lesion as well as a jugulo-carotid curage homolateral (7%), 02 patients benefited from lymph node curage recurring homolateral only.

The post-operative suites were without particularity, apart from a hypocalcemia found in 12 patients on calcium overload, and 02 cases of evacuated and drained hematoma, 12 cases of transient dysphonia, and two fistula and infection cases. and 04 cases of bilateral recursive paralysis.

Irathery with iodine-131 was performed after L-thyroxine of 4 weeks for 44 patients, or 55% of cases, with a variable number of cures: 28 patients received only one cure, 12 patients received 2 cures, and the other 4 patients received 3 cures. dose was 30mCi in 20 patients (or 19%) in low-risk cases, and 3700 MBq (100 mCi) in 24 at-risk patients intermediate or high risk.

LT4 hormone replacement therapy has been prescribed in all patients (100%) operated on for life and at TSH frénatrices doses. The therapeutic adjustments are proportional to weight and could be made through regular biological monitoring.

The decline in our series varies between 1 and 7 years with an average follow-up of 37 months. 14 patients lost sight, no deaths in our series. Monitoring was carried out by thyroglobulin and cervical ultrasound.

Carcinological results were marked by 14 recidivism cases lymph nodes and 02 recurrences at the thyroid lodge, justifying a surgical resumption in 10 patients and 04 referred for palliative treatment (multifocal metastases). for functional outcomes, 12 patients have kept hypocalcemia on calcium supplementation, 02 patients have a permanent tracheotomy.

Discussion:

The incidence of thyroid cancer has increased over the last 30 years in developed countries, while mortality from thyroid cancer has remained stable or little modified [3,5], with the epidemic being maximum in Korea South following screening campaigns [7]. Our study notes a female predominance with a female/male sex ratio In the literature [3,4,5,8,9] the sex ratio (F/H) varies between 2 and 17 with an average of 3.1, it lies in the 4th decade, In our study, the average age at diagnosis is 40.5 years. Papillary carcinoma of the thyroid of the child is rare but aggressive, revealed in the majority of cases by Multifocal thyroid nodules in 40% of cases with metastases very common cervical lymph nodes [10, 11]. The thyroid nodule is the most common mode of thyroid cancer [5,7,12]. Cervical lymphadenopathy is readily a mode of revelation in the young subject [8,10,13]. Remote metastases can be revealing especially for microcarcinoma [14]. They are usually bone metastases [13].

Ultrasound is the reference exam for nodule diagnosis EU-TIRADS currently has 5 scores based on the count of a number of malignancy criteria from the nodule to the number of four: non-oval shape, irregular contours, strong hypoechoic, microcalcifications [15] and has a sensitivity of 93% with a value 97% negative predisposition [15, 16,17] allowing for rigorous selection nodules to be explored by cytology, before any surgery.

Exploration of lymph nodes is recommended before any nodule thyroid and mandatory in front of intermediate risk nodules (score 4) and high risk nodules (score 5) [15,18,19]. The presence of lymphadenopathy does not change the score for a given nodule, A node is suspect if there is at least one of the four three specific signs of thyroid origin are the presence of microcalcifications or cystic zone and ganglion echogen recalling thyroid parenchyma. a non-specific sign that is loss of central character of vascularization. [18-19].

Thyroid cytopuncture is reliable and can be oriented and sometimes screening for thyroid cancer, Bethesda Classification 2017 presents the estimated and revised cancer risk for each diagnostic category and proposes appropriate therapeutic attitude [20] cytopuncture is not necessary in EU-TIRADS 2, but must be carried out in EU-TIRADS 4 and 5. In EU-TIRADS 3, cytopuncture should only be performed for nodules > 20 mm [15]. concerning the correlation of the TIRADS score to cytopuncture: Horvath a reported in one study has 1092 punctured nodules [32] a correlation between TIRADS score and cytopuncture, especially as 100% nodule cases score 2 and 85.9% of nodule cases score 3 are ranked in the benign category of cytopuncture thus 45% of nodule cases score 4 and 89.6% of nodule cases score 5 are classified in the malignancy of the cytopuncture.

Almost all our patients benefit from a total thyroidectomy in one or two steps. The recommendations of the American Thyroid Association (ATA) and SFE [21,22] propose this surgical practice. The classification of cancers in 4 categories (tumours at high

risk of recurrence, intermediate, low, and very low risk) allows you to choose the surgical procedure and the adjuvant treatment with the most suitable radioactive iodine, so the lobectomy is indicated for tumours <10 mm, and for tumours between 11 and 40 mm, strictly unifocal, without extra-thyroid extension and without adenopathy metastatic [21]. tabulation was reported for: capsular rupture vascular emboli, bilateral (or multifocal) involvement, nodule exceeding the thyroid isthmus.

The ATA offers prophylactic central lymph node dissection if carcinoma papillary classified T3 or T4 N0 clinical, On the other hand, lymph node dissection prophylactic is not indicated if tumor classified as T1, T2, N0 [21].

Isotope totalization is not systematic, depending on the level of patient risk [21,22,23,24,25]:

Patients at very low risk (tumor ≤ 1 cm, single and intrathyroid, without lymph node metastases) for which no benefit is expected and which iodine-131 administration is not indicated. Patients with persistent disease after incomplete surgical removal or remote metastases, or adverse prognostic factors and which has a high activity of iodine-131 after withdrawal into hormones thyroid.

Other patients have a low risk and decision to treat with iodine-131 depends on prognostic factors and the quality of surgical excision; in complete surgery, the prognosis after surgery alone is favorable and may difficult to improve by complementary treatments. In general, iodine-131 is not indicated, particularly in the case of small tumors without lymph node metastases. In case of incomplete surgical protocol, indication of a therapeutic supplement (surgical resumption or 131 iodine administration) depends on the volume of leftovers and the risk of residual disease [21 -22].

For the dose administered, a recent meta-analysis of 2500 patients [23] and two prospective studies [24,25] sought to compare the effectiveness of a low dose of iodine of 30 mCi and a high dose of 100 mCi treatment in low- and moderate-risk patients. He was not found difference in response between these doses.

The incidence of invasive cancers is estimated at 5.8% [26], affecting in order of decreasing frequency: subhyoid muscles, recurrent nerves, trachea, esophagus, then larynx. [27, 28]. Complete surgery, with preservation of function and quality of life is recommended for these tumors because the subsequent prognosis depends on the quality of resection. the follow-up of patients treated with lobectomy is not yet codified. Indeed, after total thyroidectomy (with or without radioactive iodine treatment) complete remission is defined by low serum thyroglobulin and normal cervical ultrasound [21, 29]. However, after a simple lobectomy, the thyroglobulin value (Tg) is difficult to assess, thyroid tissue normal may cause a variable serum Tg rate. A study retrospective resulted in an acceptable threshold of post-lobectomy Tg at <30ng/mL, but this figure remains to be validated [30].

The post-lobectomy surveillance for thyroid cancer is therefore primarily ultrasound, looking for so-called "structural" recurrences, or visible in imaging [21].

the prognosis remains valid, with a survival at 20 years, of more than 90% [29,30,31]. except for aggressive tumours, with invasion of the visceral axis of the neck, associated with reduced long-term survival [26,27].

Conclusion :

Papillary carcinoma is the most common thyroid cancer, it affects the subject young before the age of 50, especially the female sex. The international therapeutic recommendations are in perpetual updating, standardizing the management of these cancers at the scale national centres with the creation of cancer registries and the cooperation between the various partners in this process may make therapeutic recommendations adapted to our patients and therapeutic resources.

Bibliography :

1. Ben Raïs Aouad N, Ghfir I, Missoum F, Rahali J, Guerrouj H, Ksyar R et al. Aspects épidémiologiques du cancer différencié de la thyroïde (médullaire exclu) au Maroc. MED NUCL. 2008; 32(11):580-4. PubMed | Google Scholar

2. Peix JL, Lifante JC. Cancer thyroïdien In: Morère JF, Mornex F, Soulières D, editors. Thérapeutique du cancer. 2ème éd Paris: Springer. 2011; 655-69. Google Scholar

3. Binder-Foucard F, Bossard N, Delafosse P, Belot A, Woronoff AS, Remontet L and Réseau des registres des cancers (Francim). Cancer incidence and mortality in France over the 1980-2012 period: solid tumors. Rev Epidemiol Sante Publique 2014 ;62:95-108.

4. Colonna M, Guizard AV, Uhry Z, Delafosse P, De Maria F, Schwartz C, Grosclaude P, Réseau des registres des cancers (Francim). Analyse descriptive de l'incidence du cancer de la thyroïde à partir des données des registres des cancers sur la période 1982-2012 en France. Bulletin Epidémiologique Hebdomadaire 2016 ; 11-12 : 206-213.

5. Davies L, Welsch HG. Current thyroid cancer trends in the United States. *JAMA Otolaryngol Head Neck Surg* 2014 ; 140:317-22
 6. <http://www.e-cancer.fr/Plan-cancer/Les-Plans-cancer-de-2003-a-2013/Le-Plan-cancer-2003-2007>
 7. Vaccarella S, Franceschi S, Bray F, Wild CP, Plummer M, Dal Maso L. Worldwide Thyroid-Cancer Epidemic? The Increasing Impact of Overdiagnosis. *N Engl J Med*. 2016;375:614-7
 8. An update in international trends in incidence rates of thyroid cancer, 1973-2007. James BC, Mitchell JM, Jeon HD, Vasilottos N, Grogan RH, Aschebrook-Kilfoy B. *Cancer Causes Control*. 2018 May;29(4-5):465-473. doi: 10.1007/s10552-018-1023-2. Epub 2018 Apr 5. PMID: 29623496
 9. Leenhardt L, Grosclaude P. Epidemiology of thyroid carcinoma over the world. *Ann Endocrinol (Paris)*. 2011; 72 (2):136-48. PubMed | Google Scholar
 10. Thyroid Cancer in the Pediatric Population. Paulson VA, et al. *Genes (Basel)*. 2019. PMID: 31540418 Free PMC article. Review
 11. Bauer AJ, Francis GL. Evaluation and management of thyroid nodules in children. *Curr Opin Pediatr* 2016 ;28 :536-44.
 12. Thyroid cancer. Cabanillas ME, McFadden DG, Durante C. *Lancet*. 2016 Dec 3;388(10061):2783-2795. doi: 10.1016/S0140-6736(16)30172-6. Epub 2016 May 27. PMID: 27240885
 13. Outcomes of patients with bone metastases from differentiated thyroid cancer. Califano I, Deutsch S, Löwenstein A, Cabezon C, Pitoia F. *Arch Endocrinol Metab*. 2018 Feb;62(1):14-20. doi: 10.20945/2359-3997000000004. PMID: 29694635
 14. Les microcarcinomes papillaires de la thyroïde : à propos de 64 cas I. Hariga*, O. Ben gamra , A. Ben younes , A. Kaabi , W. Abid , C. Mbarek Service d'ORL et de CCF de l'hôpital Habib Thamer, Tunis, Tunisie . Available online 16 September 2014
 15. Gilles Russ, Steen J. European Thyroid Association Guidelines for Ultrasound Malignancy Risk Stratification of Thyroid Nodules in Adults : The EU-TIRADS. *Eur Thyroid J* August 8, 2017.
 16. A multicentre validation study for the EU-TIRADS using histological diagnosis as a gold standard. Trimboli P, Ngu R, Royer B, Giovanella L, Bigorgne C, Simo R, Carroll P, Russ G. *Clin Endocrinol (Oxf)*. 2019 Aug;91(2):340-347. doi: 10.1111/cen.13997. Epub 2019 May 3. PMID: 31002419
 17. Anna Skowrońska, Accuracy of the European Thyroid Imaging Reporting and Data System (EUTIRADS) in the valuation of thyroid nodule malignancy in reference to the postsurgery histological results. *Pol J Radiol*. 2018; 83: e579–e586.
 18. Leenhardt L, Borson-Chazot F, Calzada M, Carnaille B, Charrié A, Cochand-Priollet B, Do Cao C, Leboulleux S , Guide de bonnes pratiques pour l'usage de l'échographie cervicale et des techniques écho-guidées dans la prise en charge des cancers thyroïdiens différenciés de souche vésiculaire. *Ann Endocrinol (Paris)*. 2011 Sep;72(4 Suppl 1):H1-26.
 19. Leboulleux et al.– Ultrasound criteria of malignancy for cervical lymph nodes in patients followed up for differentiated thyroid cancer - *J Clin Endoc Met* – 2007
 20. Cibas ES, Ali SZ. The 2017 Bethesda System for Reporting Thyroid Cytopathology. *Thyroid*. 2017 Nov;27:1341-1346.
 21. Bryan R. Haugen, Erik K. Alexander, Keith C. Bible et al. 2015 American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer. *THYROID*. 2016-26(1) .
 22. Kottler M.-L. Vantghem M.-C. et al, Conférence de consensus: prise en charge des cancers thyroïdiens différenciés de souche vésiculaire *Annales d'endocrinologie, Annals of Endocrinology* 2007 – 68 (2) : 53 -94.
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- 23._Cheng W, Ma C, Fu H, Li J, Chen S, Wu S, Wang H. Low or high-dose radioiodine remnant ablation for differentiated thyroid carcinoma: a meta-analysis. *J Clin Endocrinol Metab* 2013;98:1353-60.
- 24._Schlumberger M, Catargi B, Borget I, Deandreis D, Zerdoud S, Bridji B, Bardet S, et al. Strategies of radioiodine ablation in patients with low risk thyroid cancer. *N Engl J Med* 2012;366:1663-73.
- 25._Mallick U, Harmer C, Yap B, Wadsley J, Clarke S, Moss L, et al. Ablation with low-dose radioiodine and thyrotropin alfa in thyroid cancer. *N Engl J Med* 2012;366:1674-85.
26. Honings, J., et al., The management of thyroid carcinoma invading the larynx or trachea. *Laryngoscope*, 2010. 120(4): p. 682-9.
27. Patel, K.N. and A.R. Shaha, Locally advanced thyroid cancer. *Curr Opin Otolaryngol Head Neck Surg*, 2005. 13(2): p. 112-6
28. McCaffrey, T.V., E.J. Bergstralh, and I.D. Hay, Locally invasive papillary thyroid carcinoma: 1940-1990. *Head Neck*, 1994. 16(2): p.165-72
29. Tuttle RM, Tala H, Shah J, et al. Estimating risk of recurrence in differentiated thyroid cancer after total thyroidectomy and radioactive iodine remnant ablation: using response to therapy variables to modify the initial risk estimates predicted by the new American Thyroid Association staging system. *Thyroid* 2010;20:1341-9.
30. Momesso DP, Vaisman F, Yang SP, Bulzico DA, Corbo R, Vaisman M, Tuttle RM. vDynamic Risk Stratification in Patients with Differentiated Thyroid Cancer Treated Without Radioactive Iodine. *J Clin Endocrinol Metab* 2016;101:2692-700.
31. Shaha, A.R., Implications of prognostic factors and risk groups in the management of differentiated thyroid cancer. *Laryngoscope*, 2004. 114(3): p. 393-402.
32. Horvath E, Majlis S, Rossi R, et al. An ultrasonogram reporting system for thyroid nodules stratifying cancer risk for clinical management. *J Clin Endocrinol Metab*. 2009;94:1748-1751.

Table 1 : The average age for women and men

STUDY	average	Women	Men
Fauconnier	46	46	53
F. TRIPONEZ	49	-	-
Ben rais	42.5	-	-
Our series	40,5	38,43	55,6 ans



Figure 1 : Patient with right thyroid nodule



Figure 2: cervical mediastinal scan showing a plunging goiter with tracheal displacement