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DIAGNOSTIC AND THERAPEUTIC STRATEGY IN MANAGEMENT OF THYROID HYDROCARBONS IN SURGICAL SURGERY : ABOUT 89 CASES

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ABSTRACT

Our studyconsists in reporting the experience of the General Surgery Service Wing III, CHU Ibn Rochd Casablanca, in the management of thyroid goitres, in order to analyze the anatomo-clinical aspects, the means of investigation, management in a surgical environment. We collected data on 89 cash in the service between June 2013 and June 2015. The initial assessment included an examination, a complete clinical examination and a paraclinical assessment mainly made of a thyroid ultrasound and a hormonal thyroid assessment made mainly of the TSH. The meanage of our patients was 49 years and the sex ratio was 11.71 (82F / 7H). The duration of evolution was more than 2 yearsin 31% of the cases, 58% of the patients had consulted for an asymptomatic mass. Our patients were thyroids in 100% of cases. Ultrasound showed multi heteronodular goitre in 89% of cases and 34% of cases were classified TIRADS 3. There was no evidence of diploid character in all cases. The reconciled pathologies were benignin 86% of cases and malignantin 14% of cases, the latter being mainly represented by papillary carcinoma (9.76%).The surgical technique represented by total thyroidectomyin 100% of cases in ourseries, systematically associating nerve research recurrence and parathyroids, showed post-operative results not very different from published studies in particular recurrent complications (5.61%) and parathyroid (16.85%).

Keywords: Thyroid, goiter, thyroidectomy complication.

INTRODUCTION

Goitre is diffuse or localized thyroid hypertrophy, which may be due to either gland stimulation, neoplastic or cystic infiltration, or inflammation. Thus, a goiter thyroid can be benign or malignant, which explains the perplexity of the practitioner in the diagnostic approach and the therapeutic

decision [1].

MATERIAL AND METHODS

Our work is a retrospective study of 89 cases operated on for thyroid goitre in the general surgery department (wing 3) of Ibn Rochd University Hospital of Casablanca, over a period of 2 years from June 2013 to June 2015.

RESULT AND DISCUSSION

We found a clear predominance of women with a sex ratio of 11.71. The average age of our patients was 49 years old with extremes between 20 and 71 years old. Twenty-five patients (28% of cases) had a family history of thyroid disease. The consultation period varies from 4 months to 15 years with an average of 9 years. The consultation pattern was dominated by asymptomatic cervical swelling in 58% of cases.

Cervical examination revealed nodular goitre in 52 patients (58% of cases) and diffuse goiter in 37 patients (42% of cases). Eighteen thyroid goiters were accompanied by cervical lymphadenopathy (20% of cases). ENT was performed in nine patients (10% of cases) and was normal.

Cervical ultrasound was performed in all patients and showed multi-hetero-nodular goiter in 79 patients (89% of cases) and goitre diffu homogeneous in 10 patients (11% of cases). In all cases, 34% of goiters were classified as TI-RADS3A, 22% were classified as TI-RADS4B, 13% were classified as TI-RADS4A, 5% were classified as TI-RADS2, and 26% were not been classified. This examination also revealed cervical lymphadenopathy in 18 patients (20% of cases), but the plunging character was not objectified in any patient.

Furthermore, thyroid scintigraphy was performed in 15 patients (17% of cases) who had reported multi-nodular goiter hypo-fixant in six patients and multi-nodular goitre with inhomogeneous fixation in nine patients. Pulmonary X-ray was performed in all patients, revealing tracheal deviation in six patients (7% of cases)

The TSHus assay was performed in all patients (100% of cases). The LT4 assay was performed in 24 patients (27% of cases), while that of LT3 was performed in 15 patients (16.85% of cases). Thyroidism was found in 88 patients.

Three patients underwent cytopuncture, which revealed a benign lesion in one patient and doubtful lesions in the other two patients. The calcitonin assay was performed in three patients and was found to be normal. No patient has benefited from the thyroglobulin or antithyroid antibody assay. Cervico-thoracic CT was performed in nine patients, who reported tracheal deviation in three patients, but no goiter was diagnosed.

All the patients of our series benefited from thyroidectomy. In preoperative, one patient was treated with synthetic antithyroid drugs for multi-nodular goitre, but no patients were put on thyroid hormones. No intraoperative complications have been reported in our series. In addition, some postoperative complications were observed in 22 patients (24.71% of cases) (see Table 1).

Histopathological examination found that benignity was present in 86% of cases and malignancy in 14% of cases. These included papillary carcinoma in 9 patients, vesicular carcinoma in 2 patients, medullary carcinoma in 1 patient and lymphoma in another patient.

Table 1: The complications of thyroid surgery in our series and their possible treatment.

complications	Number of cases	percentage	Treatment received
• Hypocalcemia ➢ Transient ➢ Final	15 0	16,85% 0%	• calcium substitution with good evolution
• Recurrent paralysis ➢ Transitoire ➢ Définitive	5 0	5,61% 0%	• corticotherapy with good evolution
• Compressive hematoma	1	1,12%	• H6 surgical revision for evacuation and haemostasis
• Acute thyrotoxic crisis	1	1,12%	• symptomatic treatment + substantive hormone therapy with good evolution
• Suppuration of the wall	0	0%	• None
• Fistula	0	0%	
• deaths	0	0%	

Discussion

The frequency of thyroid goiters increases with the age of the subjects, with an average of 49 years [2,3]. The female achievement is 81% for Bouttin, 90% for Bruneau and 87% for Moreau. This female predominance is due to the fact that thyreocytes have estrogen receptors that favor goitrigenes [4,5]. Thus, our results are consistent with those of the literature.

The interrogation should look for the notion of iodine deficiency, which favors the development of diffuse goitre and, in the long term, the appearance of nodules in goitre [6-9] as well as notions of familial thyroid pathologies and cervical irradiation [5].]. The duration of thyroid goitre varies according to the different studies performed with an average of 8 years [2,10]. Nevertheless, a sudden increase in thyroid volume is most often a sign of intra-cystic bleeding or a thyroid cyst [5]. However a rapid increase in the thyroid volume, could cause fear of anaplastic carcinoma or thyroid lymphoma. It should also be noted that other differentiated cancers increase in volume very

gradually and that the stability of the size does not eliminate the diagnosis of cancer [11].

In addition, the increase in thyroid volume is usually asymptomatic in more than 50% of cases. Symptomatic swelling indicates involvement of anatomical structures closely related to the thyroid body, either by compression or extension of an infiltrative process which is mainly represented by dysphonia, dyspnea and / or dysphagia [5, 12,13]. In our series, 58% of cases had asymptomatic progressive cervical swelling. Impairment of the general condition is reported only in rare differentiated cancers with synchronous metastasis or anaplastic carcinomas [14]. series no patient had presented an alteration of the general state.

Clinical examination provides evidence for malignancy, including the presence of cervical lymphadenopathy, evidence for inflammatory, infectious, or neighborhood compression [5,14]. In our series, in 20% of cases cervical lymphadenopathy without inflammatory signs was observed. Laryngoscopy has a privileged place in the evaluation of the recur- rent lesion before surgery. Thus, according to Grégory and Echternach, 6% of the recurrial palsies were observed preoperatively [15,16]. In our series this examination was performed in 10% of cases and was normal. Cervical ultrasound has been systematically performed in all studies [3, 12, 17]. This examination makes it possible to detect the malignancy criteria of nodules and cervical lymphadenopathies (see Table 2), thus making it possible to select the most suspect nodules within a nodular goitre for a possible cytopuncture [5,17, 18]. That said, there is a TI-RADS system that allows quantitative stratification of the risk of malignancy in thyroid pathology (see Table 3). In our series this examination was practiced in all patients.

Table 2: The criterion of malignancy of thyroid nodules and cervical lymphadenopathy.

Criteria of malignancy of thyroid nodules	**Criteria for malignancy of cervical lymphadenopathy**
• Supra-centimeter size • Solid and / or hypoechoic • Intra-nodular micro-calcifications • irregular, fuzzy outline • Central vasculature • Breaking of the peripheral light halo • Presence of cervical ADP [3, 18]	• Supra-centimeter size • Hypoechoic or inhomogeneous character with alternating hypo and hyperechoic zones • The presence of cyst or internal calcifications • Rounded appearance with loss of hilum [5, 3, 17,18]

Table 3: TI-RADS Score

TI-RADS Score	Meaning	Risk of malignancy(%)
1	Normal examination	
2	Benign	0
3	Most likely benin	0.625
4a	low suspicion of malignancy	6
4b	strong suspicion of malignancy	69
5	almost certainly clever	100
Acknowledgments: Dr. Gilles Russ TI-RADS : Thyorid imaging reporting and data system		

Scintigraphy especially with iodine 123 retains its place during a situation of hyperthyroidism and especially when the thyroid is multi nodular, this is how the hyperfixing nodules will be correctly identified. Moreover, in cases where the cytopunction has a dubious or twice non-contributory result, the use of a secondary scan is justified. Indeed, the observation of a capture will come to almost innocent these nodules, if however they have a size of at least 1cm [19]. In our series this examination was performed in 17% of cases.

The chest X-ray gives an approximation of the resonance of goitre on the tracheal axis, its plunging character [20,21]. It also shows the presence of intrathyroid calcifications or pulmonary metastases. Cervical CT and MRI are essential for assessing the extent, volume, and anatomical relationships of endothoracic, mediastinal, or retro-pharyngeal thyroid goiters [22,23]. In addition, cervical MRI has superior features, including excellent tissue contrast, no risk of dysthyroidism, and no irradiation, hence its value in pregnant women [24]. In our series, no goiter has been objectified. 3D ultrasound, Doppler energy and the use of ultrasound contrast agents are techniques that have not yet been properly evaluated [5].

Ultrasonography ultrasound elastography could therefore identify cancers of increased hardness, such as papillary cancers. On the other hand, unmodified hardness cancers will not be recognized, as is the case with most follicular cancers. Quasistatic elastography was the first used. Initially, the compression was generated by the probe under the impulse of the operator. At the present time, the improvement of the sensitivity of the detection of the minute tissue movements makes it possible to use the carotid pulse [25].

The determination of the TSHus level is the parameter of choice for the detection of thyroid gland dysfunctions, since it has a very high sensitivity because a minimal variation of T4L causes a very amplified response of TSHus [26].]. This is how it is done as first intention [11,27]. Anti-TSH receptor antibodies are present in 98% of Basedow's disease, the presence of which may be predictive of recurrence after discontinuation of antithyroid therapy [11]. However, the presence of anti-TPO (antithyroperoxidase) antibodies in the serum of a patient suffering from dysthyroidism favors an autoimmune disease. Their place in the therapeutic decision remains limited [11, 28]. In

addition, for some authors, fine-needle aspiration reduces a certain number of unnecessary procedures for the sole purpose of diagnosis, since this makes it possible to eliminate benign cases [29-30].

As far as possible, it is recommended to intervene only on a patient with euthyroidism, although there are cases where it is difficult to obtain the normalization of thyroid hormones even with well-conducted treatment [31]. In our series, a patient was treated with antithyroid drugs for toxic goitre.

In the presence of a multi-heterodular goiter and although there is no established consensus, it seems reasonable when an indication is made to propose a bilateral and complete gesture from the outset [32, 33]. It is only when nodular dystrophy is almost unilateral with a soft and anterior infra-centimeter contralateral nodule that it will be possible to propose, if the extemporaneous histology of the suspicious nodule is negative, a lobo-ishmectomy associated with an enucléo-resection. of this contralateral nodule [14,34].

For lesions revealed by lymph node metastasis, total thyroidectomy is associated with bilateral mediastino-functional and functional dissection [31, 35, 36]. On the other hand, enlarged thyridectomy is usually indicated for cancer that has exceeded the limits of the thyroid compartment. Resection of both unilateral or bilateral subhyoid muscles is essential if the cancer exceeds the limits of the capsule, which facilitates monobloc excision of the thyroid gland [35]. All patients in our series had undergone total thyroidectomy.

The mean length of hospital stay for our patients was 3 days, which is consistent with data from the literature [32]. Mortality of thyroid surgery is extremely low; in fact, the majority of recent studies find that mortality is still below 1% or even zero most often. This mortality is almost always linked to acute haemorrhage [37]. In our study, we did not deplore deaths, so our results are superimposable to those of the literature [32]. Nevertheless, thyroid surgery exposes to the occurrence of three complications major, often reversible and potentially preventable: recurational palsy, secondary hypoparathyroidism and compressive hematoma.

The great specificity of the extemporaneous examination conditions the attitude of the practitioner. However, its contribution remains limited for the diagnosis of microcarcinomas and carcinomas of micro vesicular architecture [38]. Lecancer constitutes less than 5% of thyroid pathology [39], of which papillary carcinoma is the most common since it accounts for 65 to 80% of thyroid cancers [11, 40, 41], while vesicular carcinoma comes second. In our series, 13 patients had thyroid cancer, nine of whom had papillary carcinoma.

Total thyroidectomy requires the establishment of hormone therapy which has a dual interest; firstly, a role of substitution that makes it possible to correct hypothyroidism, as well as a suppressive role making it possible to reduce relapses by inhibiting the secretion of TSH and thus preventing the stimulation of the growth of possible metastases [42]. In our series, all patients were put on hormone replacement therapy for life.

IRA therapy and very little used except in cases of distant metastasis [43]. For metastatic cancers, external radiotherapy and chemotherapy are indicated, but are considered to be ineffective.

CONCLUSION

The search for clinical signs in front of a thyroid goitre completed by multiple paraclinical examinations, can often guide the practitioners in the management and a better definition of the surgical indication. However, new techniques have made it possible to reduce the rate of complications, but rigor in the execution of surgical procedures remains the key to the prevention of

complications.

Conflicts of interest

Authors do not declare any conflicts of interest

Contributions of the authors

All authors contributed to carry out this study and they read and approved the final manuscript.

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