

# Hyperthyroidism at Kara Teaching Hospital About 33 Cases Studies

Djalogue Lihanimpo<sup>1,\*</sup>, Mossi Komi Edem<sup>2</sup>, Tchamdja Toyi<sup>1</sup>, Djugadou Kodjo Agbeko<sup>2</sup>, Balaka Abago<sup>2</sup>, Djibril Mohaman Awalou<sup>2</sup>

<sup>1</sup>Department of Internal Medicine, University of Kara, Kara, Togo

<sup>2</sup>Department of Internal Medicine, University of Lomé, Lomé, Togo

## Email address:

djalogueprisca@yahoo.fr (Djalogue Lihanimpo)

\*Corresponding author

## To cite this article:

Djalogue Lihanimpo, Mossi Komi Edem, Tchamdja Toyi, Djugadou Kodjo Agbeko, Balaka Abago et al. (2023). Hyperthyroidism at Kara Teaching Hospital About 33 Cases Studies. *International Journal of Diabetes and Endocrinology*, 8(4), 60-63.

<https://doi.org/10.11648/j.ijde.20230804.14>

Received: November 10, 2023; Accepted: November 27, 2023; Published: December 6, 2023

**Abstract:** The objective of this study was to describe the epidemiological, clinical, paraclinical and etiological profiles of hyperthyroidism at Kara Teaching Hospital. This was a retrospective study of the records of patients followed for hyperthyroidism in the internal medicine and endocrinology department of the Kara Teaching Hospital from June 2021 to March 2023. During this study period, 33 (2.24%) of the 1476 patients had hyperthyroidism. Women accounted for 81.82% of cases. The mean age was 44.72 +/- 15.76 with extremes ranging from 10 to 71 years. Goiter was found in 78.79% of cases, followed by asthenia 72.73% and tachycardia 60.61%. The causes of hyperthyroidism were Graves' disease in 36.36% of cases, thyroiditis in 30.30% of cases, toxic multinodular goiter in 27.27% of cases, and toxic nodule in 6.06% of cases. 6% of patients had complications such as cardiothyreosis. The course with synthetic antithyroids was favorable with normalization of thyroid hormones. Finally, 30% of the patients had been operated on. Hyperthyroidism is very common in hospitals in Kara with a female predominance. The clinical signs are varied and the main cause is Graves' disease.

**Keywords:** Hyperthyroidism, Thyrotoxicosis, Goiter, CHU Kara

## 1. Introduction

Hyperthyroidism is a disorder of the thyroid gland in which it produces an excess of plasma free thyroid hormones (T3L, T4L). It is responsible for many clinical manifestations grouped under the term thyrotoxicosis to which can be associated disorders that vary depending on the etiology. Thyrotoxicosis syndrome is the result of excess thyroid hormones in target tissues, regardless of its cause [1]. The prevalence of hyperthyroidism is estimated to be between 0.5 and 2% of the adult population, with a 10-fold higher prevalence in women [2]. In the United States, the prevalence of hyperthyroidism is approximately 1.2% (0.5% overt and 0.7% subclinical) [1].

In Africa, the overall prevalence of hyperthyroidism is currently unknown. However, hospital series are reported with varying frequencies from one country to another. In

Benin [3] and Togo [4], the prevalence of hyperthyroidism was 1.64% and 11.75%, respectively. In Congo Brazzaville [5], Ivory Coast [6], and Chad [7], hyperthyroidism accounted for 25.1%, 25%, and 53% of dysthyroidism, respectively the most common causes of hyperthyroidism are Graves' disease (GDM), toxic multinodular goiter (TMNG), and toxic adenoma (TA) [8].

In Togo, several authors have reported studies on hyperthyroidism [4, 9-14] all in Lomé, and none in Kara to our knowledge.

The objective of our study was to describe the epidemiological, clinical, paraclinical and etiological profiles of hyperthyroidism at Kara Teaching Hospital.

## 2. Method

This was a retrospective study that was conducted from

June 2021 to March 2023. It focused on the records of patients followed for hyperthyroidism in the department of internal medicine and endocrinology of the Kara Teaching Hospital. All records with the hormonal diagnosis of hyperthyroidism were analyzed.

The parameters collected were the reason for consultation, clinical signs, ultrasound aspects, hormonal profile and treatment modalities. We included all patients, of all sex and all ages, followed in outpatient consultation for hyperthyroidism and who had performed an ultrasensitive thyroid-stimulating hormone (TSHus) and the measurement of thyroid hormones (free T3 and free T4) whose values obtained were compared to laboratory values.

The diagnosis of hyperthyroidism was made based on the presence of suggestive symptoms and confirmation by measuring thyroid hormones. Other assays had been carried out, namely anti-thyroid-stimulating hormone receptor antibodies (anti-RcTSH) according to the profile. Morphologically, a thyroid ultrasound was performed. Sociodemographic data, clinical, paraclinical and etiological manifestations were the variables studied.

In this study we identified several hormonal profiles:

- 1) crude hyperthyroidism: when TSH is low while thyroid hormones (FT3 and FT4) are normal.
- 2) pure T3 hyperthyroidism: when TSH is low associated with normal FT4 and high FT3.
- 3) manifest or proven hyperthyroidism: when TSH is low associated with elevated FT4 and FT3 or associated with elevated FT4 and normal FT3.

### 3. Results

Out of 1476 files in total, 33 patients presented hyperthyroidism, it's a prevalence of 2.24%. The average age was 44.72  $\pm$  15.76 with extremes of 10 to 71 years. The most represented age group was [45-55] years old. Women were strongly represented in our study, 84.85% of cases with a sex ratio (M/F) of 0.11.

Patients who had hyperthyroidism for less than a year represented 75.76% of cases.

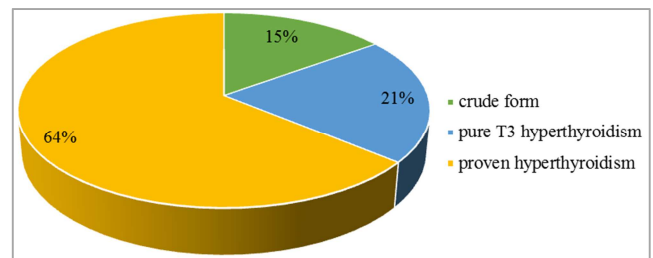
Among the antecedents, 9 patients (27.27%) had associated arterial hypertension and 5 (15.15%) were diabetic. The clinical manifestations were variable, goiter was present in 78.79% of cases and asthenia 72.73% of cases (table 1).

**Table 1.** Circumstances of discovery of hyperthyroidism.

	N	%
Goiter	26	78,79
Asthenia	24	72,73
Tachycardia/ Palpitations	20	60,61
Weight loss	16	48,48
Tremor	9	27,27
Sweating	7	21,21
Exophthalmos	6	18,18

Hormonal exploration was performed in all patients. It included the measurement of TSHus, free T4 and free T3.

Forms of proven hyperthyroidism represented 64% of cases figure 1.



**Figure 1.** Distribution of hormonal profiles.

Anti-TSH receptor antibodies (TRAK) were prescribed in 12 patients but only 9 (75%) patients were able to carry them out and their results were positive.

Cervical ultrasound was requested in all patients but only 26 (78.79%) were able to perform it.

The etiologies of hyperthyroidism were sought based on the presence of suggestive symptoms, hormonal confirmation and ultrasound results. Graves' disease represented 36.36% of cases, followed by thyroiditis in 30.30% of cases, toxic multinodular goiter in 27.27% of cases and toxic nodule in 6.06% of cases. The major signs of Graves' disease found in our series were bilateral proptosis and vascular goiter.

Treatment consisted of synthetic antithyroid drugs (ATS) (Carbimazole, Methimazole). All patients were placed on ATS.  $\beta$  blockers (Propranolol) had been used in patients with tachycardia and/or tremor. Once euthyroidism was achieved, the patients were referred for surgery and among them 10 had undergone surgery resulting in total thyroidectomy.

### 4. Discussion

Our study focused on hyperthyroidism at Kara Teaching Hospital. The main limitation of this study concerns the insufficiency of our laboratories to carry out certain specific assays such as anti-TSH receptor antibodies and anti-TPO antibodies; as well as performing scintigraphy.

In our study we noted a prevalence of 2.24%, Djrolo et al in Benin [3] reported a prevalence of 1.64%. The average age of our patients was 44.72 years  $\pm$  15.76. This result is similar to that of Djrolo et al [3], as for Bensalem et al in Senegal [13], Dionadji et al in Chad [7], and Mbadinga et al in Congo Brazzaville [5], they had respectively found average ages of 35.5 years and 38.4 years and 37.5%.

In our study we found a female predominance of 81.82%. This result is similar to several authors [3, 7, 13, 15]. Hyperthyroidism is a predominantly female pathology [16].

The most frequent clinical signs were the presence of goiter (78.79%), asthenia (72.73%), tachycardia (60.61%) and weight loss (48.48%). Dionadji et al in Chad [7] found goiter in 97.6%, tachycardia 91.2%, weight loss 80.8% and tremor 71.4%. Brah et al in Niger [15] found tremor in (77.60%), tachycardia (75.50%), weight loss (73.50%), asthenia (61.20%), Sidibé et al in Dakar [17] found tremor in 70%; tachycardia 93.54%; weight loss 87%; asthenia 25% of

cases. Togo et al [18] reported tachycardia in 92.15%, tremors in 90.19%, weight loss in 46.07, insomnia and asthenia in 42.15 each. All these studies have shown that the most common overlapping signs of hyperthyroidism are weight loss, asthenia, tachycardia and tremor. Exophthalmos was bilateral in our study in a proportion of 18.18%. Amadou et al [14], Dionadji et al [7] and Brah et al [15] reported exophthalmos in 54.52% and 38.4%, 26.5% of cases, respectively. Koffi Dago et al in Ivory Coast [6] found bilateral exophthalmos in 76.69% of cases. This disparity can be explained by the fact that the existence of exophthalmos is most often found in Graves' disease although it is not systematic. In our series, 2 patients (9.09%) presented with cardiothyreosis. Yaméogo et al in Burkina Faso [19] found 33.3% of cardiothyreosis. This disparity is explained by the fact that the study by Yaméogo et al was carried out in the cardiology and internal medicine hospitalization departments. And note that because of the cardiological signs which are often at the forefront of cardiothyreosis, patients are often referred to cardiology. Graves' disease was found in 36.36% of cases, thyroiditis 30.30%, toxic multinodular goiter 27.27% and isolated toxic nodule 6.06%. Mbandiga et al [5] found 72.1% Graves, 16.7% toxic nodule and 2.8% toxic multinodular goiter. Koffi Dago et al [6] reported 38.4% Graves, 31.2% toxic multinodular goiter and 18.4% toxic nodule.

We specify that drug and toxic causes were not found in this series.

## 5. Conclusion

Hyperthyroidism is not rare in our regions and is the prerogative of women. Its diagnosis is mainly based on clinical manifestations which are varied, confirmed by serum TSH dosage and hormonal assays (FT3 and FT4). Complications (in our study 2 cases of cardiothyreosis) can be indicative of the disease, or occur during treatment and follow-up. The etiology of hyperthyroidism remains dominated by Graves' disease. And treatment is essentially based on the use of synthetic antithyroid drugs, followed in certain cases by surgery (total thyroidectomy) after medical preparation.

## ORCID

Djalogue Lihanimpo: 0009-0006-5987-9488

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Ross DS, Burch HB, Cooper DS, Greenlee MC, Laurberg P, Maia AL et al. 2016 American Thyroid Association guidelines for diagnosis and management of hyperthyroidism and other causes of thyrotoxicosis. *Thyroid*. 2016; 26 (10): 1343-421. doi: 10.1089/thy.2016.0229.
- [2] Wémeau J-L, Cardot-Bauters C, d'Herbomez-Boidein M, Périmenis P, Céphise-Velayoudom F-L. Hyperthyroïdie. EMC - Endocrinologie – Nutrition 2006; 3.
- [3] Djrolo F, Gninkoun J et traoré Goita S. Profil épidémiologique et clinique des hyperthyroïdies au CNHU de Cotonou. *Annales d'Endocrinologie*. 2016; 77 (4): 399-400.
- [4] Balaka A, Tchamdja T, Kodjo K, Djalogue L, Djangadou KA, Nemi KD et al. Dysthyroïdies in hospital environment in Lomé (Togo). *RAFMI*. 2022; 9 (1): 38-43.
- [5] Mbandinga H, Nkoua JL, Kibeké P, Bikandou G, Nsakala-kibangou N. Hyperthyroïdies: aspects étiologiques et cliniques: étude de 72 cas au CHU de Brazzaville (congo). *Médecine d'Afrique Noire*. 1997; 44 (6): 342-4.
- [6] Koffi Dago P, Fagnidi F, Lokrou A, Danho J, Abodo J, Hue A et al. Les Hyperthyroïdies à Abidjan: Aspects Cliniques, Biologiques, Thérapeutiques et Évolutifs à Propos de 399 Cas. *Health Sci. Dis*. 2019; 20 (6): 23-6.
- [7] Dionadji, M., Abbas, O., & Mbero, M. Caractéristiques Cliniques et Biologiques de l'Hyperthyroïdie à N'Djamena. *Health Sci. Dis*. 2015; 16 (4): 1-3. Retrieved from <https://www.hsd-fmsb.org/index.php/hsd/article/view/590>
- [8] Singer PA, Cooper DS, Levy EG, Ladenson PW, Braverman LE, Daniels G, et al. Treatment guidelines for patients with hyperthyroidism and hypothyroidism. Standards of Care Committee, American Thyroid Association. *JAMA*. 1995; 273 (10): 808-12. PMID: 7532241.
- [9] Balaka A, Djangadou KA, Tchamdja T, Mossi E, Nemi KD, Djibril AM. La maladie de Basedow: aspects épidémiologiques, diagnostiques et évolutifs au CHU Sylvanus Olympio de Lomé. *Rev Afr End Métab Nut*. 2016; 2 (3): 6-9.
- [10] Agoda-Koussema L, Adjenou K, Amana B, Goeh Akue K. Aspects échographiques des anomalies de la thyroïde à propos de 134 cas. *Méd d'Afr Noire*. 2008; 55 (11): 573-8.
- [11] Akossou SY, Napom A, Goeh-Akue E. Les difficultés de la prise en charge de la thyrotoxicose en Afrique Noire. *Ann Endocrinol*. 2001; 62: 516-20.
- [12] Sabi KA, Amekoudi EYM, Noto-Kadou- Kaza B, Vigan J, Tia WM, Mossi KE et al. Profil et facteurs de risques des dysthyroïdies chez l'hémodialysé chronique au Togo: étude multicentrique de 119 hémodialysés chroniques. *J Res Sci univ Lomé*. 2017; 19 (1): 1-4.
- [13] Bensalem H. profils hormonaux thyroïdiens des patients atteints d'hyperthyroïdie thèse. Cheick Anta Diop: Université Cheick Anta Diop; 2017. 71p.
- [14] Amadou Diop Dia, Diatou Gueye Dia, Cheikh Tidiane Tall, Awa Cheikh Ndao, Nafy Diagne, Nafy Ndiaye et al. Les Hyperthyroïdies à Saint-Louis du Sénégal: Prise en Charge Diagnostique et Thérapeutique. *Health Sci. Dis*. 2022; 23 (3): 30-33.
- [15] Brah S, Mahamane Sani M A, Daou M, Andia A, Bade M A, Bakasso R et al. Les Dysthyroïdies à l'Hôpital National de Niamey. *Health Sci. Dis*. 2016; 17 (4): 36-40.
- [16] Hélène Lasolle et Françoise Borson-Chazot. Hyperthyroïdies. In: L. Guilevn, L Mouthon, H Lévesque. *Traité de médecine*, 5<sup>éd</sup>. paris, TdM éditions, 2019-S21-P02-C01: 1-6.

- [17] Sidibe EH, Fall L, Toure-Sow H, Sow AM. Hyperthyroïdie après 50 ans en milieu Sénégalais. Etude de 31 cas colligés en 14 ans. *Rev Med Int* 1998; 19: 237-41.
- [18] Togo A, Kante L, Diakite I, Traore A, Maiga A, Samake A et al. Goîtres bénins hyperthyroïdiens en chirurgie générale CHU Gabriel Touré Mali: aspects épidémiologiques et diagnostiques. *Méd. d'Afr noire*. 2010; 57: 61-4.
- [19] Yaméogo AA, Yaméogo N V, Compaoré Y D, Ouédraogo T L, Zabsonré P. La cardiomyopathie au centre hospitalier universitaire de Bobo-Dioulasso, Burkina Faso. *Pan Afr Med J*. 2012; 11: 38.