Endocrinol Nutr. 2015;62(4):188–199

ENDOCRINOLOGÍA Y NUTRICIÓN

www.elsevier.es/endo

REVIEW ARTICLE

Thyroid orbitopathy, an overview with special attention to the role of radiotherapy☆

Santiago Vilar-González[a,*], Cristina Lamas-Oliveira[b], María A. Fagúndez-Vargas[c], Ana T. Núñez-Quintanilla[d], Alberto Pérez-Rozos[e], Jesús Merayo-Lloves[f], José J. Escobar-Barranco[g], José M. Rico-Pérez[h]

[a] *Servicio de Oncología, Queen Alexandra Hospital, Cosham, United Kingdom*
[b] *Servicio Endocrinología y Nutrición, CHUA, Albacete, Spain*
[c] *Servicio Oftalmología, CHUA, Albacete, Spain*
[d] *Servicio Física Médica, CHUA, Albacete, Spain*
[e] *UGC Oncología, Hospital Virgen de la Victoria, Málaga, Spain*
[f] *Fundación de Investigación Oftalmológica, Oviedo, Spain*
[g] *Servicio de Oftalmología, Hospital Cruz Roja Dos de Mayo, Barcelona, Spain*
[h] *Servicio de Oncología, Royal Preston Hospital, Fulwood, United Kingdom*

Received 4 August 2014; accepted 11 December 2014
Available online 2 May 2015

KEYWORDS
Thyroid orbitopathy;
Graves ophthalmopathy;
Radiotherapy;
Irradiation;
Corticosteroids

Abstract Thyroid orbitopathy is the most prevalent non-thyroid symptom in Graves' syndrome. It has a high incidence and particularly affects young women. Smoking is clearly involved in its development and progress, and in its response to different treatments. This autoimmune condition usually has a benign course, independent from hyperthyroidism, but its severe, progressive forms represent a major therapeutic challenge. Clinical evaluation poses great difficulties, as there is no truly objective rating scale representing disease activity. New molecular or inflammation markers may prove to be useful in this regard. This review reports new findings about its pathophysiology and the different techniques used for treatment over time. Discussion particularly focuses on the immunomodulatory role of radiotherapy, as well as on its role together with corticosteroids.
© 2014 SEEN. Published by Elsevier España, S.L.U. All rights reserved.

☆ Please cite this article as: Vilar-González S, Lamas-Oliveira C, Fagúndez-Vargas MA, Núñez-Quintanilla AT, Pérez-Rozos A, Merayo-Lloves J, et al. Orbitopatía tiroidea, una visión global con atención especial al papel de la radioterapia. Endocrinol Nutr. 2015;62:188–199.

* Corresponding author.
E-mail address: santiagov06@gmail.com (S. Vilar-González).

2173-5093/© 2014 SEEN. Published by Elsevier España, S.L.U. All rights reserved.

PALABRAS CLAVE
Orbitopatía tiroidea;
Oftalmopatía de Graves;
Radioterapia;
Irradiación;
Corticoides

Orbitopatía tiroidea, una visión global con atención especial al papel de la radioterapia

Resumen La orbitopatía tiroidea es el síntoma no tiroideo más prevalente en el síndrome de Graves. Presenta una alta incidencia, afectando especialmente a mujeres jóvenes. Existe una clara relación causal con el tabaco, que se halla implicado tanto en su desarrollo como en su evolución y en la respuesta a los diferentes tratamientos. Se trata de un proceso autoinmune que suele evolucionar de manera benigna e independiente del hipertiroidismo, aunque cuando es grave y progresiva representa un gran reto terapéutico. Su evaluación clínica presenta grandes dificultades al no existir una escala de valoración realmente objetiva y representativa de la actividad de la enfermedad. En esta línea pueden ser útiles nuevos marcadores moleculares o de inflamación. En la presente revisión se describen nuevos hallazgos sobre su fisiopatología, así como las diferentes técnicas utilizadas para su tratamiento a lo largo del tiempo. La discusión se centra especialemente en el papel inmunomodulador de la radioterapia, así como en su papel junto con los corticoides.
© 2014 SEEN. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

Graves' or Basedow's syndrome is characterized by the classical triad of hyperthyroidism with diffuse goiter, orbitopathy, and dermopathy. Its symptoms may occur together during the course of the disease or isolated and separately.

The incidence of orbital involvement in patients with Graves' syndrome is estimated at 25–50%. Involvement may range from mild manifestations to major symptoms. Only 5% of patients with thyroid orbitopathy(TO) require more aggressive treatment, such as glucocorticoids or radiotherapy. The incidence of some grade of orbitopathy in Graves' syndrome in the general population is approximately 16 women and 3 men per 100,000 population, with a female:male ratio of 5:1.[1,2] TO usually starts between the third and fourth decades of life. Its clinical presentation may be more severe in elderly subjects and men, and milder in Asian people.[2,3]

Smoking is clearly related to TO development and course, and also to its response to and reactivation after treatment.[4–6] This relationship was suggested from the first description of TO, and is somewhat greater in women. The link between smoking and orbitopayhy could be due to tissue hypoxia, cytokine-mediated modulation, and the enhancement in HLA-DR expression by fibroblasts. Smoking cessation is one of the mainstays of treatment for this disease.[7]

Genetic factors play an essential role; an increased frequency of haplotypes HLA B8, DRw3, Bw36, Bw46 and the single nucleotide polymorphism (SNP) rs179247 is found, suggesting a clear familial predisposition.[8]

TO may affect one or both eyes. Bilateral TO is most common, although the severity of the condition in each orbit may be different. Clinical signs and symptoms occur gradually, and there is usually a weak correlation with the severity and duration of thyroid dysfunction. From 80% to 90% of patients have hyperthyroidism during TO onset.[2] As a result of thyroid treatment, TO may improve in 50–64% of patients or stabilize in 22–33%.[9,10] Although ocular manifestations are associated with thyrotoxicosis, the possibility of intraorbital or intracranial disease should be ruled out. This requires differential diagnosis with cavernous sinus thrombosis, sphenoid wing meningioma, retrobulbar and intracranial tumors (including orbital lymphoma), idiopathic orbital inflammatory disease or eye pseudotumor, lymphoid hyperplasia, uremia, malignant hypertension, chronic alcoholism, chronic obstructive pulmonary disease, superior mediastinal obstruction, carotid-cavernous fistula, and Cushing's syndrome.

If doubt exists about TO etiology, the detection of significant titers of thyroid-stimulating immunoglobulins, immunoglobulins inhibiting TSH binding, peroxidase antibodies, abnormal stimulation with thyrotropin-releasing hormone, or thyroid suppression tests suggest TO. It should be noted that there are euthyroid and even hypothyroid patients with TO who show no changes in these markers.[2]

Orbitopathy, when severe and progressive, is the component of TO most difficult to treat. TO most often has a benign course independent of hyperthyroidism, and may even be self-limited over time in moderate to severe cases, with only some degree of exophthalmos and ophthalmoplegia.[2,9] When treatment has been decided, the fact that peak activity occurs between 13 and 24 months after disease onset should be taken into account. Most patients (up to 80–90%) may subsequently improve or remain stable.[11] By contrast, up to 5% may experience a late reactivation.[2]

It has not been confirmed that either complete thyroid ablation by surgery or metabolic therapy with iodine-131 is more beneficial for ophthalmic disease than the use of antithyroid drugs. There is however agreement as to the need for adequate thyroid function monitoring.[7,12]

Pathophysiology

Significant advances have recently been made in our understanding of the pathophysiology of TO. Two processes of special interest occur in this regard: the development of

Download English Version:

https://daneshyari.com/en/article/3266913

Download Persian Version:

https://daneshyari.com/article/3266913

Daneshyari.com