ENDOCRINOLOGÍA Y NUTRICIÓN

CrossMark

ORIGINAL ARTICLE

Epidemiology of acromegaly in Ecuador☆

Enrique López Gavilanez[a,*], Kempis Guerrero Franco[a],
Narcisa Solórzano Zambrano[b], Manuel Navarro Chávez[b], Camilo López Estrella[c],
Luis Vaca Burbano[d], Eduardo Marriott Díaz[e]

[a] Servicio de Endocrinología, Hospital Docente Policía Nacional N.° 2, Guayaquil, Ecuador
[b] Servicio de Endocrinología, Hospital L. Vernaza, Guayaquil, Ecuador
[c] Servicio de Endocrinología, Hospital TMC, Guayaquil, Ecuador
[d] Servicio de Neurocirugía, Hospital Docente Policía Nacional N.° 2, Guayaquil, Ecuador
[e] Servicio de Gastroenterología, Hospital TMC, Guayaquil, Ecuador

Abstract

Objectives: To assess the epidemiology of acromegaly in the city of Guayaquil, Ecuador, and to compare our results to those reported in the literature.

Patients, material and methods: An analysis was made of retrospective and prospective data from all patients with acromegaly attending endocrinology clinics at the 4 main hospitals of the public health network of Guayaquil from January 2000 to December 2014. Age at diagnosis, estimated delay in diagnosis, imaging studies of pituitary gland, basal growth hormone (GH) level, GH after an oral glucose tolerance test (OGTT-GH), and serum levels of insulin-like growth factor 1 (IGF-1) were recorded. Incidence and prevalence of the disease were estimated using information from the 2010 census of population and housing.

Results: Forty-eight cases were recorded in the study period in 17 males (35.4%) and 31 females (64.5%); M/F ratio = 1.8:1. Mean age at diagnosis was 47.3 ± 16.8 years (range 18–86). Delay in diagnosis was 7.3 ± 6.3 years (range 1–30). Mean age at diagnosis was 47.9 ± 18.2 years in males and 46.3 ± 15.8 years in females. Delay in diagnosis was 10.2 ± 7.9 and 5.7 ± 3.9 years in males and females, respectively. Prevalence of acromegaly is 18.7 cases per million inhabitants, and incidence of acromegaly 1.3 cases per million people per year.

Conclusions: Acromegaly predominates in females, and is diagnosed in the fourth decade with a delay of approximately 8 years, usually even longer in males. Incidence and prevalence are lower than reported in international series. The disease is underdiagnosed and underreported in Ecuador.

© 2016 SEEN. Published by Elsevier España, S.L.U. All rights reserved.

Epidemiología de la acromegalia en Ecuador

Resumen

Objetivos: Evaluar la epidemiología de la acromegalia en la ciudad de Guayaquil (Ecuador) y comparar nuestros resultados con los reportados en la literatura.

Pacientes, material y métodos: Estudio de recolección de datos retrospectivos y prospectivos de todos los pacientes con acromegalia que acudieron a los consultorios de endocrinología de los 4 principales hospitales de la red pública de salud en la ciudad, desde enero de 2000 hasta diciembre de 2014. Se registró la edad al diagnóstico, tiempo estimado de retraso en el diagnóstico, estudios de imagen de hipófisis, nivel basal de la hormona de crecimiento (GH), GH después de la sobrecarga oral de glucosa (SOG-GH) y concentraciones séricas de factor de crecimiento insulínico 1 (IGF-1). Calculamos la incidencia y prevalencia de la enfermedad utilizando la información del censo de población y vivienda del año 2010.

Resultados: Se registraron 48 casos en el periodo de estudio, de los cuales 17 eran hombres (35,4%) y 31 mujeres (64,5%); relación M/H = 1,8:1. El promedio global de edad al diagnóstico fue 47,3 ± 16,8 años (rango 18 a 86). El tiempo de retraso en el diagnóstico fue 7,3 ± 6,3 años (rango 1 a 30). En los hombres el promedio de edad al diagnóstico fue de 47,9 ± 18,2 años y en las mujeres de 46,3 ± 15,8 años. El tiempo de retraso en el diagnóstico fue de 10,2 ± 7,9 y de 5,7 ± 3,9 años en hombres y mujeres, respectivamente. La prevalencia de acromegalia es 18,7 casos/millón habitantes y la incidencia es de 1,3 casos/millón personas/año.

Conclusiones: Existe predominio de la enfermedad en mujeres, se diagnostica en la cuarta década, con un retraso en el diagnóstico de alrededor de 8 años, que suele ser aún mayor en hombres. La incidencia y prevalencia son más bajas que las descritas en series internacionales. Existe subdiagnóstico y subregistro de la enfermedad en nuestro país.

Introduction

Acromegaly is an uncommon disease, associated with significant morbidity and a high mortality rate, due to the prolonged hypersecretion of growth hormone (GH) and to excess production of insulin-like growth factor 1 (IGF-1), originating in the vast majority of cases in a GH-secreting adenoma.[1–3]

The international literature provides different figures on the epidemiology of acromegaly in populations from different regions and countries. At the end of the 1990s, national registries of acromegaly started to be created to establish the epidemiological characteristics of the disease and to design adequate diagnosis and treatment strategies. The best organized registries of cases of acromegaly are those of Spain, Belgium, and Germany.[4–6]

In Latin America, a similar initiative, the National Epidemiological Program of Acromegaly of Mexico, Epiacro, has already issued its first report on the epidemiology of the condition.[7]

Most series report prevalence figures ranging from 40 to 95 cases per million population, with a mean estimated prevalence of approximately 69 cases per million population[4,6–17] (Table 1). However, figures usually differ, depending on the region or country examined. For instance, the overall prevalence in Mexico is 13 cases per million population.[7]

Acromegaly is an uncommon disease in terms of new cases diagnosed, with an estimated incidence of approximately 3–4 cases per million population.[14] Its incidence in Spain is around 2.5 cases per million population per year.[6,12]

Almost all series show a greater incidence in females, except the Belgian registry, where very similar proportions for the sexes were reported.[4] In the Epiacro study, females accounted for 60% of cases.[7] Patients are usually diagnosed between the fourth and sixth decades of life, and the estimated time delay from symptoms to clinical or biochemical diagnosis ranges from 9 to 35 years.[3,16]

Table 1 Main series reporting the epidemiology of acromegaly.

Author (year)	Prevalence[a]	Incidence[b]
Alexander et al.[8]	40	3
Bengtsson et al.[9]	69	3.3
Ritchie et al.[17]	63	4
Etxabe et al.[12]	60	3.1
Holdaway et al.[14]	60	3–4
Mestron et al.[6]	36	2.1
Daly et al.[11]	36–69	–
Bex et al.[4]	41	1.9
Cannavò et al.[10]	97	–
Fernandez et al.[13]	86	–
Acevedo et al.[7]	13	–
Hong et al.[28]	–	3.9
Sesmilo[16]	60	–

[a] Cases per million population.
[b] Cases per million population per year.