CLINICAL CHARACTERISTICS AND TREATMENT RESULTS OF ACROMEGALIC PATIENTS AT THE HOSPITAL SAN JUAN DE DIOS IN COSTA RICA

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Abstract

Objectives: to describe the clinical presentation, comorbidities and treatment results of acromegalic patients that are treated at the Hospital San Juan de Dios in Costa Rica.
Materials and methods: all the information of acromegalic patients treated at the Hospital San Juan de Dios is kept on a database. This is a description of the clinical characteristics and treatment result of these patients up to June 2008. Statistical analysis was performed using SPSS 15.0. Continuous variables were analyzed using T student tests and discontinuous variables with chi-square.
Results: 34 patients are included, 50% males. Average age is 44.7 ± 15.01 years. There was a delay of 7.3 ± 7.5 years between start of symptoms and diagnosis. Average follow up is 11.12 ± 8.03 years. Clinical presentation included headache (58.8%), acral enlargement (85.3%), hypertrophy of facial bones (44.1%), lip enlargement (50%). 79.4% were macroadenomas, 58.9% with extrasellar extension. Surgery was performed in 88.2% of patients, 56.1% radiotherapy, 50% octreotide and 41.2% bromocriptine. At this moment, 38.2% are well controlled (GH less than 2 ng/ml and normal IGF-1), 17.6% had normal GH and high IGF-1, 5.9% had high IGF-1 and normal GH and 35.3% had high IGF-1 and GH. 64.7% of patients had hypopituitarism, 20.6% hypertension, 20.6% diabetes mellitus, 11.8% osteoarthrosis, 35.3% dyslipidemia, 23% thyroid diseases and 5.8% cancer.
Discussion: the estimated prevalence of acromegaly at our center is approximately 30 cases per million. Age of diagnosis and clinical presentation is similar to that described worldwide. Despite being a low income country and severe economic constraints in the Costa Rican Social Security system, our outcomes are very similar to that reported in developed countries. The Spanish Acromegaly Registry showed similar results, 40.3% of these patients is well controlled. The Belgian Registry showed that only 30% of acromegalic patients was well controlled, 24% high IGF-1 with normal GH and 11% with high GH and normal IGF-1.
Conclusion: clinical presentation and treatment results are similar to those reported worldwide. Despite being a low income country, we face the same treatment constraints as other countries where most of the acromegalic patients have active disease.

Introduction

Acromegaly is a rare condition with a prevalence of 40-60 cases per million. Its long term consequences are not limited to physical changes but these patients have a higher mortality rate. In the last two decades, great advances have been made in the knowledge and treatment of this disease. In order to reduce the mortality rate, GH levels less than 2 ng/ml must be achieved.
Costa Rica is a small country with a population of just 4 million. 95% of Costa Ricans are covered by the Social Security system. San Juan de Dios Hospital is the oldest hospital in Costa Rica and is part of this Social Security system. We are the only Endocrinology Department and we receive referrals from an area of about 1.1 million population. In 2006 we presented at the Costa Rican National Medical Association meeting the clinical characteristics of our acromegalic patients. Back then we had only identified 25 acromegalic patients, leading to a prevalence of 23 cases per million. After realizing we had a big underdiagnosis rate, several detection campaigns and increase in medical education was performed. We are now presenting our data up to 2008.
The main objective of the study is to describe the clinical presentation, comorbidities and treatment outcome of acromegalic patients treated at our Hospital.

Materials and methods

This is a prospective descriptive study. All acromegalic patients treated at the Hospital San Juan de Dios are registered on a database that includes demographic, clinical, treatment and control variables. This database started in 2005.
This abstract presents the data analysis of all patients included in the database up to September 2008. We defined treatment outcome using the Cortina Consensus Criteria, well controlled patients have to have a nadir GH < 1 ng/ml on OGTT and normal age and sex matched IGF-1. Not controlled patients have GH levels >1 ng/ml on OGTT and high IGF-1 leves. Statistical analysis was performed using SPSS 15.0.

Results

34 patients are being treated for acromegaly at our center. The estimated prevalence is 30 cases per million. We have an incidence of 3.6 cases per million. Average age is 44.7 years, 50% are women and on average, symptoms started 7.3 years before diagnosis was made. Most (79.4%) of patients have macroadenomas.

Graph 1. Age at diagnosis.

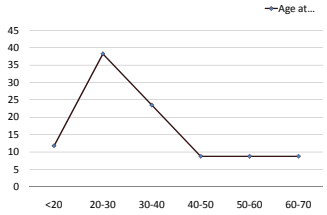

Table 1. Symptoms at diagnosis	
Headache	58.8%
Frontal bossing	44,1%
Enlarged nose	70,6%
Prognatism	55,9%
Lip enlargement	50%
Acral enlargement	85,3%
Excessive sweating	55,9%

Table 2. Treatment received by acromegalic patients.	
Hypophysectomy (TS/TC)	88.2 (93.3/6.7)
Radiotherapy	56.1%
conventional	42.1%
linear accelerator	52.6%
gamma knife	5.3%
Bromocriptine	41.2%
Octreotide	50%

Table 3. Comorbidities in acromegalic patients	
Hypopituitarism	64.7%
Diabetes mellitus	20,6%
Hypertension	20,6%
Osteoarthrosis	11,8%
Dislipidemia	35.3%
Thyroid disease	23%
Cancer	5.8%

Graph 2. Acromegaly treatment outcome

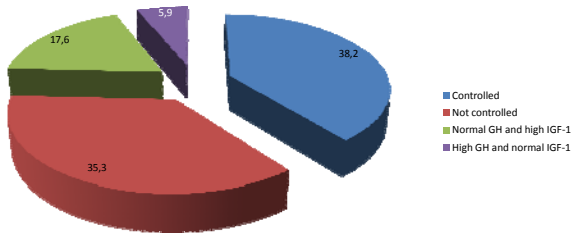

Table 4. Treatment comparison between patients who are controlled and those not controlled			
Treatment	Controlled	Poorly controlled	P
Surgery	100%	80.95%	,217
Radiotherapy	76,92%	57,14%	,062
Bromocriptine	46.15%	61,9%	,459
Octreotide	38,46%	42,85%	,075

Table 5. Comparison of different characteristics between acromegalic patients that are controlled versus not controlled				
Characteristic	Controlled	Poorly controlled	Total	P
Age	47,38±15,60	43,05±14,78	44,71±15.01	,422
Gender (M/F)	38.5/61.5%	57.1/42.9%	50/50%	,241
% macroadenomas	84.6%	76.2%	79.4%	,682
Extraselar extension	53,9%	61,9%	58,9%	,705
Average initial GH level (ng/ml)	27,50±21,86	60,30±94,91	48±77,14	,251
Time elapsed before diagnosis	9,54±9,28	5,95±6,09	7,3±7,54	,182

Discussion

Compared to our 2006 data, we have increased the diagnosis of acromegaly and now our prevalence is reaching that reported worldwide. We are now using more octreotide (the only somatostatin analogue available in Costa Rica) as medical treatment and less radiotherapy. Also, we have a decreasing rate of hypopituitarism and a 5% increase rate in acromegaly control.
Compared to other acromegaly registries, we have similar results. The Los Angeles Pituitary Registry reports that most of their acromegalic patients are diagnosed between 30-40 years old, in our series most of them are diagnosed between 20 and 30 years. This registry also reports that 86% have acral enlargement, 46% excessive sweating and 74% have facial changes, numbers that are similaras in our series.
The Spanish Acromegaly Registry reports that 44% of patients are being treated with somatostatin analogues and 40% of patients overall are well controlled. In our series, 50% are using octreotide and 38% of patients are well controlled. However, in the Spanish series only 25% of patients have hypopituitarism.
The Belgian Acromegaly Registry shows that 24% of patients have IGF-1 levels with normal GH and 11% have high GH with normal IGF-1. Only 30% of their patients are controlled. These data are similar to ours.

Conclusions

Clinical presentation and treatment results are similar to those reported worldwide. Despite being a low income country, we face the same treatment constraints as other countries where most of the acromegalic patients have active disease. Compared to our 2006 data, we have increased diagnosis and improved our treatment outcomes.

References

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