PROLACTINOMAS AT THE SAN JUAN DE DIOS HOSPITAL IN COSTA RICA: A SINGLE CENTER EXPERIENCE

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Introduction

The isolation of human prolactin in 1970 enabled the identification of hyperprolactinemia as a separate clinical entity and resulted in distinguishing prolactin-secreting tumors from nonfunctioning adenomas. Prolactinomas are the most frequent hormone secreting pituitary tumors, accounting for about 40% of all these tumors. Their main clinical presentation is with infertility, sexual dysfunction and hypogonadism. The objective of our study is to describe for the first time a case series of prolactinomas in Costa Rica.

Materials and Methods

All male and female patients with prolactinomas in control at the Endocrinology Unit at San Juan de Dios Hospital in San José, Costa Rica, were collected and their charts were reviewed. Variables were analyzed with SPSS 18.0.

Results

Table 1. Caracteristics of 114 patients with prolactinomas at San Juan de Dios Hospital.

Characteristic	Males (n=10)	Females (n=104)	Total (n=114)	P
Age at diagnosis (years)	44	31.72	32.73	<0.001
Prolactin levels at diagnosis (ng/ml)	1229.5 ± 2059.2	270.88 ± 701.16	334.48 ± 901.05	0.004
% with macroadenomas	60	25.6	29.16	0.109
% with normal prolactin levels at follow up	80	46.2	49.1%	<0.001
Average follow up (years)	6.22 ± 2.99	9.11 ± 8.12	8.86 ± 7.85	0.293

From our case series, 9.6% of patients are currently cured; these patients were older at presentation (39.6 vs 32.2 years, p=0.027). Comparing cured patients with not cured, there were no significant differences in initial prolactin levels, tumor size, treatment with bromocriptine, cabergoline, surgery nor duration of treatment. No patients had worsening of visual symptoms during follow up. We documented, only 9.7% of patients had extrasellar invasion.

Table 2. Initial prolactin levels according to tumor size.

Tumor size	Initial prolactin level (ng/ml)	P
Microadenomas	169.64 ± 321.35	<0.001
Macroadenomas	1653.31 ± 2031.95	

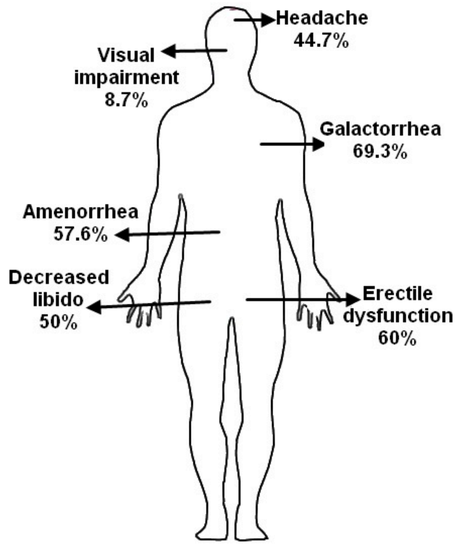
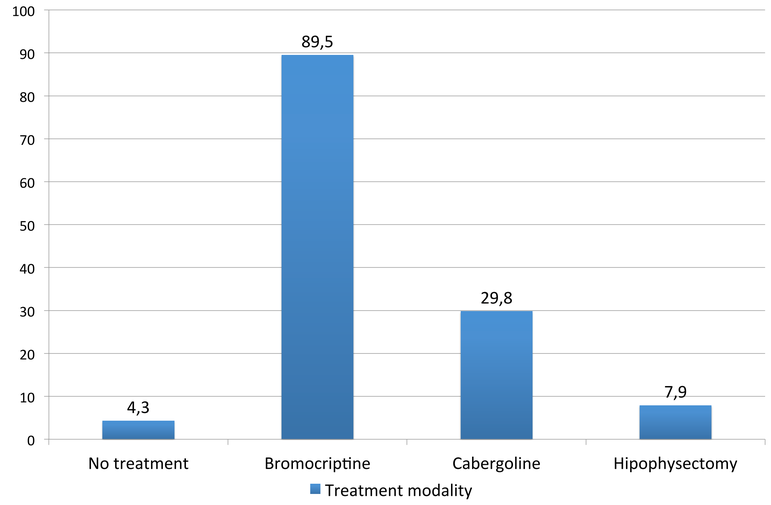


Figure 1. Clinical presentation of patients with prolactinomas in our series.

Graph 1. Treatment used at some point during the follow up of patients with prolactinomas



Discussion

The San Juan de Dios Hospital in Costa Rica attends a population of about 1 million people. With 114 cases, our prevalence is similar to that reported in other series. As expected, men have larger tumors and higher prolactin levels at diagnosis. Contrary to a smaller case series by Schlechte et al., with a report of 20%, our series show that less than 10% of our patients achieved long-term normal prolactin levels without treatment. Furthermore, our series documented only 9.7% of extrasellar invasion, while other series report as much as 30.8% of extrasellar invasion (italian series by Marco Losa´s group). Most of our patients were initially treated with bromocriptine because it is the only dopamine agonist available in Costa Rica Social Security´s formulary. Cabergoline is only used in cases in which adverse events or resistence to bromocriptine are present.

Conclusions

Most of our prolactinoma patients are females. Women are diagnosed at a younger age and usually have microadenomas and lower prolactin levels. However, on follow up they achieve lower control rates despite similar treatments compared to males. Most of our patients are treated medically and only a few patients undergo surgery due to visual impairment or tumor size mainly. A minority of patients achieve cure either by medical or surgical treatment. Moreover, as described in literature, medical therapy with dopamine agonists is highly effective in most cases and remains the mainstay of therapy in prolactinomas.

Summary

The first report of a case series of 114 patients with prolactinomas in control at the Endocrinology Unit of San Juan de Dios Hospital in Costa Rica. As described, the majority of patients were female, mean age at diagnosis in the 4th decade of life, higher prolactin levels at diagnosis in males than in females, and larger tumor sizes in males associated with higher prolactin levels. In regards to treatment, in our series, less than 8% underwent surgery and most of the patients had medical treatment with bromocriptine. Less than 10% were cure, but 80% of males and 46.2% of females keep normal prolactin levels with treatment at followup. We found that less than 10% of our patients have normal long-term prolactin levels without treatment and that women tend to achieve a lower rate of normal prolactin values than men do.

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