

SERUM CONCENTRATIONS OF GLUCOSE, CHOLESTEROL AND TRIGLYCERIDE IN MEN WITH PROLACTINOMA TREATED WITH CABERGOLINE

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INTRODUCTION

Hyperprolactinemia has been associated with several metabolic abnormalities both in glucose homeostasis, insulin sensitivity, and in lipid profile. Moreover, it has also been reported that many of them seem to improve after normalizing serum prolactin (PRL) concentrations.

OBJECTIVE

To study serum glucose, cholesterol and triglyceride in men with prolactinoma before and after chronic treatment with cabergoline.

PATIENTS AND METHODS

A retrospective study in 27 patients [age 39.1±13.1 years; 20 macroprolactinomas (74.1%)] was performed (table 1). Serum levels of glucose, cholesterol, triglycerides, PRL, gonadotropins (FSH and LH) and testosterone were quantified in every patient before and after cabergoline therapy.

RESULTS

Mean serum glucose (94.1±13.4 mg/dl), cholesterol (211.4±41.6 mg/dl) and triglyceride (132.6±83.9 mg/dl) at prolactinoma diagnosis [PRL 1200 (337-5507) ng/ml] were normal.

Cabergoline therapy [time on therapy 56.9±46.0 months; cumulative dose 108 (49.5-239) mg] achieved a reduction in serum PRL [16 (2.9-44.2) ng/ml, p<0.001] and an increase in serum testosterone (236.8±161.4 ng/dl vs 365.8±155.2 ng/dl, p=0.032) without significant changes in gonadotropin levels (figure 1).

Cabergoline did not modify serum concentrations of glucose (94.2±12.3 mg/dl) and triglyceride (128.9±61.2 mg/dl). However, it was accompanied by a reduction in serum cholesterol, although this decrease did not reach the level of the statistical significance (198.4±31.9 mg/dl; p=0.061) (figure 2). No correlation between serum PRL and testosterone with serum glucose, cholesterol and triglyceride at prolactinoma diagnosis or at last clinical visit was found.

Table 1. Clinical, radiological and analytical data at presentation in 27 men with prolactinomas.

	Microprolactinomas	Macroprolactinomas	Total
Number of patients (%)	7 (25,9)	20 (74,1)	27 (100)
Age at diagnosis (yr)	36.9 ± 11.5	39,8 ± 13,8	39.1 ± 13,1
Age at diagnosis (%)			
<40 yr	4 (57.1)	11 (55.0)	15 (55.6)
≥40 and ≤60 yr	3 (42.9)	7 (35.0)	10 (37.0)
>60 yr	0 (0.0)	2 (10.0)	2 (7.4)
Tumor maximum diameter (cm)	0.7 ± 0.3	3.2 ± 1.1	2.6 ± 1.5
Hypopituitarism (partial or total) at diagnosis (%)	3 (42.9)	15 (75.0)	18 (66.7)
Biochemical parameters			
Glucose (mg/dl)	97.9 ± 10.4	92.8 ± 14.2	94.1 ± 13,4
Creatinine (mg/dl)	0.95 ± 0.14	0.96 ± 0.15	0.96 ± 0.15
Cholesterol (mg/dl)	208.4 ± 47.7	212.4 ± 40.6	211.4 ± 41.6
Triglyceride (mg/dl)	152.0 ± 104.4	125.6 ± 76.7	132.6 ± 83.9
Hormone parameters			
PRL (ng/ml)***	142 (45-337)	2878 (895-6102)	1200 (337-5507)
FSH (mU/ml)	2.5 (1.2-4.1)	2.1 (1.3-2.8)	2.2 (1.3-2.9)
LH (mU/ml)	2.3 (1.3-3.6)	1.4 (1.0-3.4)	1.6 (1.0-3.4)
Testosterone (ng/dl)**	417.6 ± 207.2	216.1 ± 116.1	272.5 ± 169.7

Data indicate mean ± SD, the number of the patients (%) or median (interquartile range). **p=0.005; ***p<0.001 micro- vs macroprolactinoma

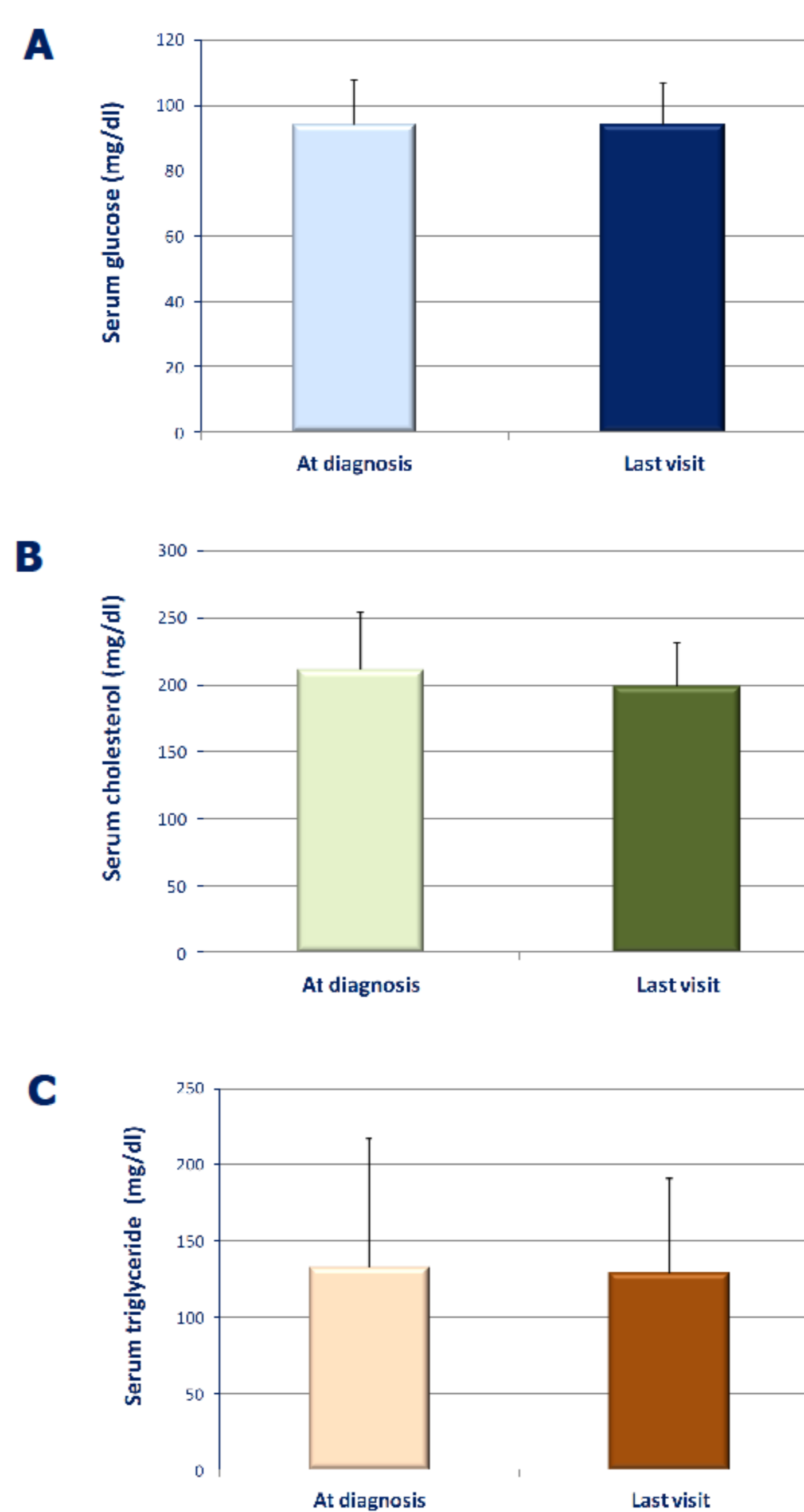


Figure 2. Serum glucose (A), cholesterol (B) and triglyceride (C) at prolactinoma diagnosis and at last visit.

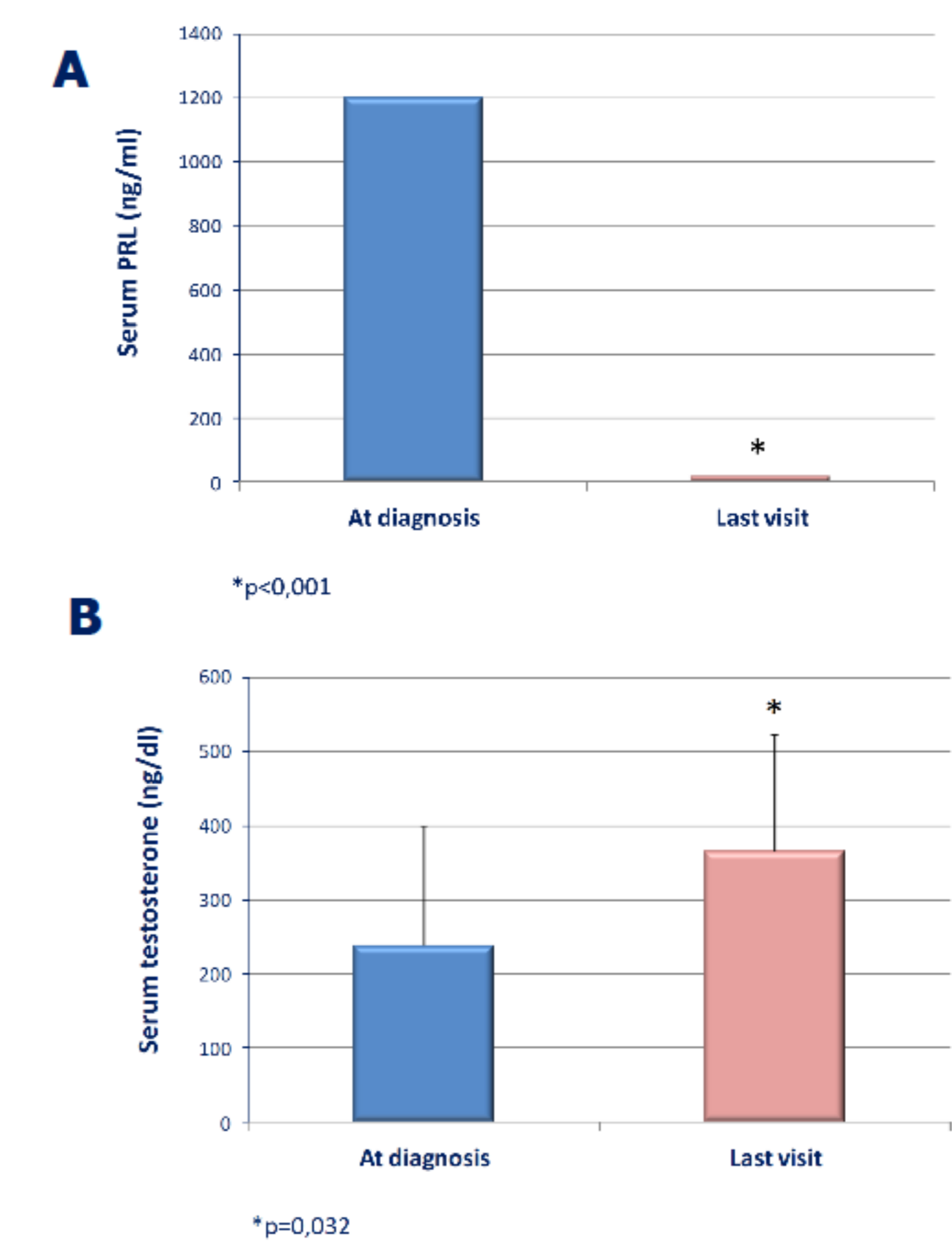


Figure 1. Serum PRL (A) and testosterone (B) at prolactinoma diagnosis and at last visit.

CONCLUSION

Both hyperprolactinemia and its chronic treatment with cabergoline seem not modify glycemic and lipid profile in men with prolactinoma.