



CABERGOLINE TREATMENT IN PROLACTINOMA MAY NOT RELATE WITH DYSLIPIDEMIA

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Introduction

The metabolic changes of lipid profiles in prolactinoma treated with cabergoline are not completely clarified. The aim of this preliminary study is to evaluate changes of lipid profile in both of patients with functional hyperprolactinemia and prolactinoma before and after cabergoline treatment.

Methods

Twelve patients with prolactinoma who were treated with cabergoline [mean age 33.8±7.6 years and body mass index (BMI) 27.0±9.6 kg/m²], 30 age- and BMI-matched patients with functional hyperprolactinemia (mean age 30.0±9.8 years; BMI 26.8±6.4 kg/m²), and 30 age- and BMI-matched healthy control subjects (mean age 31.0±7.0 years; BMI 25.2±2.9 kg/m²) were included in this study. All venous blood samples after 12 hour overnight fasting period were taken before and after cabergoline treatment. All hormonal and biochemical analysis were performed by automatic analyzer.

Results

Our findings demonstrated that serum prolactin levels in prolactinoma were 139.9 ±111.9 ng/ml vs. 23.0±28.2 ng/ml before and after cabergoline treatment, respectively (p=0.001). On the other hand, serum mean prolactin levels was 58.3±40.5 ng/ml in hyperprolactinemia group without cabergoline treatment and 16.2±8.3 ng/ml in control group (p=0.01). Serum mean total cholesterol levels were found as 181.2±30.0 vs 184.1±26.7 mg/dl respectively, before and after treatment in prolactinoma group. Serum mean LDL-cholesterol levels in prolactinoma group were 102.8±25.4 vs. 104.2±19.9 mg/dl before and after treatment. Serum mean HDL-cholesterol levels in prolactinoma group were 57.5±11.1 vs. 59.1±15.8 mg/dl and serum mean triglyceride levels were 106.9±46.0 vs. 102.5±47.2 mg/dl before and after treatment, respectively.

Before and after cabergoline treatment, no significantly differences were found between study groups in terms of serum lipid profiles such as total cholesterol, LDL-cholesterol, HDL-cholesterol and triglyceride levels. In addition, all lipid parameters in prolactinoma group were not different from both of hyperprolactinemia group and their control group.

Discussion:

We previously demonstrated that hyperprolactinemic patients have more insulin resistant independent obesity or anthropometric parameters such as fat content, waist circumference and BMI than healthy control subjects. Some studies also demonstrated that high serum PRL level might have impact on lipid metabolism via direct effect on adipose tissue. Ling et al. reported that an effect of PRL in reducing the lipoprotein lipase activity in adipose tissue with consequent increase in triglyceride levels. The hyperprolactinemic milieu or cabergolin treatment may lead to metabolic syndrome. However, the exact mechanism is not well established.

Conclusions

According to our preliminary results, we consider that cabergoline therapy does not impact on serum lipid levels in patients with prolactinoma. This study is still ongoing.

