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Aims and Scope

Growth Hormone & IGF Research is a forum for research on the regulation of growth and metabolism in humans, animals, tissues and cells. It publishes articles on all aspects of growth-promoting and growth-inhibiting hormones and factors, with particular emphasis on insulin-like growth factors (IGFs) and growth hormone. This reflects the increasing importance of growth hormone and IGFs in clinical medicine and in the treatment of diseases.

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of cases, with some loci hypomethylated and others hypermethylated within the same cell type in some cases. Differences in the degree of hypomethylation in BMC between the two sides of the body did not usually match differences in hypotrophy in children with asymmetry. Our new results suggest that tissue-specific epigenotypes may lead to clinical heterogeneity in RSS.

Prolactin

PO5-1

Clinical relevance of serum prolactin level in perimenopausal women with metabolic syndrome

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Introduction: Metabolic disorders in women are associated with multiple changes in hormonal status. Data on clinical value of prolactin in metabolic syndrome (MS) and diabetes are contradictory. In this study we assessed serum prolactin level and its clinical correlations in perimenopausal women with MS.

Methods: We investigated 44 women with MS in perimenopause. MS was diagnosed according to IDF criteria (2009). Perimenopause was defined in conformity with WHO guidelines (1996). Patients with gynecological diseases, hypothyroidism, hyperthyroidism, pituitary and adrenal tumors were excluded. All women underwent comprehensive investigation including measurement of serum prolactin, testosterone, progesterone, follicle-stimulating hormone, luteinizing hormone, insulin, leptin, cortisol, thyroid-stimulating hormone and free thyroxine levels using immunoassays. To assess correlations between clinical and laboratory parameters we used Spearman's correlation coefficient (rs).

Results: We observed normal serum prolactin concentrations in 95.5% and elevated prolactin levels in 4.5% of patients (reference values - 61-745 mIU/l). We found no significant correlations between prolactin level and following parameters: BMI, plasma lipid fractions, C-reactive protein, follicle-stimulating hormone, luteinizing hormone, insulin, leptin, cortisol, thyroid-stimulating hormone, free thyroxine and left ventricular mass index. In the meantime, serum prolactin concentration correlated with testosterone level (rs=0.437; p=0.007). Analysis of subgroups revealed the difference in correlations' strength and significance between women with various components of MS. For instance, women with MS in the absence of diabetes mellitus and impaired glucose tolerance were characterized by positive correlations between serum levels of prolactin and testosterone (rs=0.502; p=0.034), as

well as prolactin and progesterone (rs=0.662; p=0.019). Women with MS including abnormalities of carbohydrate metabolism had no significant correlations between these parameters.

Conclusions: The results of the study suggest that the composition of metabolic disorders in perimenopausal women with MS may have an influence on hormonal interrelationships involving prolactin. Further studies are needed to elucidate clinical implications of these findings.

PO5-2

Serum prolactin level in chronic kidney disease

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Introduction: Chronic kidney disease (CKD) is a life-long condition associated with substantial morbidity and premature death due to complications from a progressive decrease in kidney function. Prolactin levels have been shown to be increased in especially poorly controlled diabetes mellitus and the prevalence of higher prolactin level in diabetic patients has been higher than the non-diabetic population. The aim of this study was to evaluate serum prolactin concentration in patients with diabetes type 2 (DT2) and CKD.

Methods: A total 104 patients with DT2 patients and CKD were included in the study. The concentrations of serum prolactin were measured with a specific radioimmunoassay. CKD was diagnosed either as evidence of kidney damage, including microalbuminuria, or by low glomerular filtration rate (GFR) (<60 mL/min/1.73 m²), which was estimated using the Modification of Diet in Renal Disease (MDRD) abbreviated equation. Control group included 75 healthy patients the same age.

Results: Hyperprolactinemia was detected in 21 (20%) patients with DT2 and CKD and in 3 (4%) person from control group. We found a stepwise increase in prolactin level in patients with DT2 and CKD (from stage 3 to 5) (p<0.001). Serum creatinine levels correlated positively with prolactin (r=0.54, p<0.05). On the other hand, GFR correlated negatively with prolactin level (r=-0.53, p<0.05). We did not reveal association of prolactin level and sex, age and duration of diabetes.

Conclusions: In the present study, we found a stepwise increase in serum prolactin level with worsening of renal failure in DT2. The further studies are needed to clarify the effects of persistent hyperprolactinemia in patients with DT2 and CKD.