

4th European ENDOCRINOLOGY AND DIABETES CONGRESS

September 09-10, 2024 | Paris, France

Correlation analysis of serum GAS6, TSP1 combined with RAB7A in secondary osteoporosis caused by growth hormone deficiency**Cheng Zhiling**

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Objective: To investigate the correlation of serum growth arrest-specific protein 6 (GAS6), thrombospondin-1 (TSP1), RAS-related protein 7A (RAB7A) with the risk of osteoporosis (OP) in patients with growth hormone deficiency.

Methods: 100 patients diagnosed with growth hormone deficiency by insulin hypoglycemia growth hormone stimulation test (ITT) were selected as the study subjects, and were divided into 47 patients without OP and 53 patients with OP according to whether they had osteoporosis (OP). The clinical data of the two groups were compared, and the serum GAS6, TSP1 and RAB7A levels were detected by enzyme linked immunosorbent assay. Pearson correlation was used to analyze the relationship between each index and L2-4 BMD. Multivariate Logistic regression model was used to analyze the influencing factors of growth hormone deficiency complicated with OP, and the predictive value of serum GAS6, TSP1 and RAB7A for OP was analyzed by receiver operating characteristic curve (ROC).

Results: Compared with the non-OP group, the serum GAS6 level in the OP group was up-regulated, and TSP1 and RAB7A were down-regulated, the difference was statistically significant ($P < 0.05$). There were significant differences in serum alkaline phosphatase (ALP), procollagen type I N-terminal pro-peptide (PINP), β -Crosslaps (β -cTX), GAS6, TSP1, RAB7A and L2-4 bone mineral density (BMD) between 2 groups ($P < 0.05$). Pearson correlation analysis showed that GAS6 was negatively correlated with L2-4 BMD, while TSP1 and RAB7A were positively correlated with L2-4 BMD ($P < 0.05$). Logistic analysis showed that the increase of GAS6 was an independent risk factor for OP in patients with growth hormone deficiency, and the increase of TSP1 and RAB7A were independent protective factors ($P < 0.05$). The area under the curve predicted by serum GAS6, TSP1 and RAB7A for patients with growth hormone deficiency combined with OP was 0.887, which was higher than 0.657, 0.701 and 0.689 predicting separately ($P < 0.05$).

Conclusion: GAS6 levels are up-regulated and TSP1 and RAB7A levels are down-regulated in patients with growth hormone deficiency and OP. The changes of their levels have certain predictive value for patients with growth hormone and OP.

Keywords: growth hormone deficiency; osteoporosis; growth arrest-specific protein 6; thrombospondin-1; RAS-related protein 7A.

Biography

Cheng Zhiling, female, born on May 12, 1989, master's degree, the main research direction is endocrine and metabolic pathology, has many years of clinical experience.