



CLINICAL ASSESSMENT OF HYPERCALCIURIA AND HYPOMAGNESEMIA IN PATIENTS WITH BARTTER SYNDROME AND GITELMAN SYNDROME

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Objective:

Bartter syndrome (BS) and Gitelman syndrome (GS) have similar clinical manifestations. It's hard to be distinguished by the symptoms and laboratory, even though the genetic analysis.

The study was based on the analysis of clinical data of 72 patients of BS and GS, and tries to find some useful parameters to help to differentiate diagnose.

Methods:

To summarize the clinical data, and to analyze the correlation between urinary calcium, blood magnesium and clinical symptoms.

Result:

72 cases patients aged from 2 months to 15.5 years (median 1.75years).

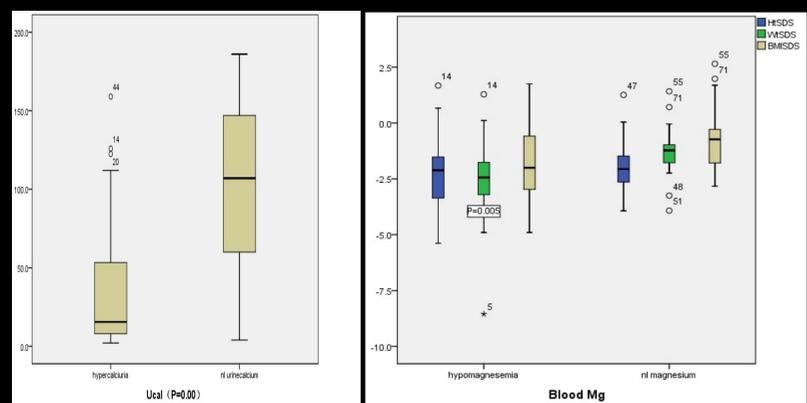
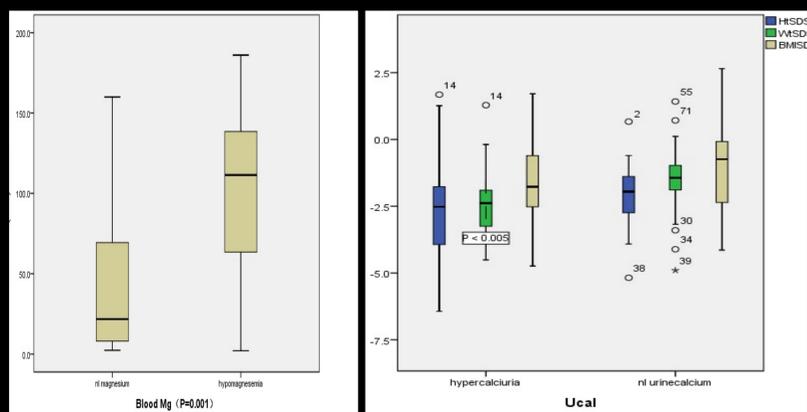
sex ratio of boy: girl is 52:20.

All patients had hypokalemia, metabolic alkalosis, normal blood pressure and the levels of plasma rennin, angiotension and aldosterone elevated.

The ratio of urine calcium/creatinine over 0.2 was considered as a mark of hypercalciuria. The age of hypercalciuria group was 2.64 ± 2.95 yrs old, and that of ratio < 0.2 was 8.26 ± 4.49 yrs ($P = 0.00$). The SDS of weight was -2.58 ± 1.11 and -1.59 ± 1.26 respectively ($P < 0.005$).

The age of patients with hypomagnesemia(serum magnesium $< 0.8\text{mmol/l}$)was 7.88 ± 4.47 yrs, and the age of normal serum magnesium was 3.78 ± 4.14 yrs ($P = 0.001$), the SDS of weight were -2.42 ± 1.60 and -1.42 ± 1.13 ($P = 0.005$). There was no significant difference between the two groups with the ratio of urine calcium/creatinine.

Correlation analysis showed that urinary calcium/creatinine ratio positive correlated with serum magnesium ($R = 0.355$, $P = 0.008$)



Conclusion:

The patients with hypercalciuria were younger than that of normal urine calcium, and coincidentally with poor nourished and growth. The GS patients with hypomagnesemia usually had mild symptoms. The clinical types and genotypes of BS and GS were often overlapped. The parameters of hypercalciuria and hypomagnesemia were useful in the differential diagnosis of BS and GS.

