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A Case of Pseudo-Bartter Syndrome caused by Surreptitious Habitual Vomiting

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A Case of Pseudo-Bartter Syndrome caused by Surreptitious Habitual Vomiting

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Introduction : Pseudo- Bartter syndrome (due to chloride deficient diets, chronic vomiting, and laxative abuse) presents the same clinical and biological characteristics as Gitelman syndrome or Bartter syndrome without primary renal tubule abnormalities. We report here a case of pseudo- Bartter syndrome associated with surreptitious habitual vomiting.

Case : A 21- year- old man showed hypokalemic metabolic alkalosis, normotensive or hypotensive hyperreninemia, hyperaldosteronism and a low urinary calcium and chloride level. Electrolyte values were as follows : potassium 2.6 mEq/L (NL 3.5- 5.5 mEq/L), chloride 83mEq/L (NL 98- 110 mEq/L), creatinine 1.3 mg/L (NL 0.6- 1.2 mg/dL), magnesium 2.7 mg/L (NL 1.3- 2.7 mg/dL). Urinary excretion of sodium for 24 hours was 42 mEq/L, potassium 126mEq/L, calcium 6 mg/L, and chloride 8.2 mEq/L. 24hours urine calcium/creatinine ratio was 0.008. Osmolarity was 281 mOsm/kg·H2O in serum and 548 mOsm/kg·H2O in urine. Blood gas was disclosed metabolic alkalosis (pH 7.54, PaCO2 47.6 mmHg, PaO2 121 mmHg, bicarbonate 40.3 mEq/L). Plasma renin activity and plasma aldosterone concentration at the resting, supine position were 96.8 pg/mL/hr (normal 1- 2.5 pg/mL/hr) and 1294 pg/dl (50- 194 pg/dl), respectively. Transtubular potassium concentration gradient (TTKG) was 24.An electrocardiogram demonstrated T wave depression and presence of U wave. Non- enhanced renal computed tomography showed normal findings. Renal clearance test showed function of thick ascending loop of Henle and distal convoluted tubule was intact.

Discussion : We describe precise biochemical mimicry of these metabolic abnormalities in a paitent with surreptitious repetitive vomiting, in whom simple urinary chloride excretion data subsequently excluded the diagnosis of Gitelman syndrome. Surreptitious vomiting must be excluded in any adult patient in whom a diagnosis of Bartter's or Gitelman's syndrome is considered. It is important for physicians to be aware of the clinical and laboratory expressions of vomiting since hypokalemia itself may lead to serious complications and because the differentiation of this condition from BS or GS by urine electrolyte determinations is both simple and cost- effective.

Key Words : 가짜 바터증후군, 구토, 저칼륨혈증, 지텔만 증후군

Pseudo- Bartter syndrome, Vomiting, Hypokalemia,Gitelman syndrome