Metabolic Alkalosis and Chronic Renal Failure in a Bulimic Patient

A.	Akio	Inui ^a
S.	Shunzo	Kobayashi ^b
M.	Masaharu	Uemoto ^c
S.	Seitetsu	Yoon ^a
M.	Masato	Kasuga ^a

^a2nd Department of Internal Medicine and ^bDepartment of Psychiatry, Kobe University School of Medicine, Kobe, ^cDepartment of Psychiatry, Nishi-Kobe Medical Center, Kobe, Japan

Dr. Akio Inui, 2nd Department of Internal Medicine, Kobe University School of Medicine, Kusunoki-cho, Chuo-ku, Kobe 650 (Japan)

Dear Sir,

Metabolic acidosis is a characteristic of chronic renal failure that is mostly due to inability of the damaged kidney to excrete hydrogen ion. We recently treated a bulimic patient who developed metabolic alkalosis when chronic renal failure was advanced.

A 25-year-old woman was transferred to our institution because of elevation of serum creatinine (736 $\mu\text{mol/l}$) and blood urea nitrogen (18.0 mmol/l) levels. She had a 10-year history of bulimia nervosa and anorexia nervosa (body mass index 13.6) with frequent episodes of bingeing and vomiting. High fever preceded the onset of her symptoms such as nausea. Arterial blood gas analysis revealed metabolic alkalosis (pH 7.52, bicarbonate 55.8 mmol/l) with marked retention of CCl_4 ($\text{pC} < \frac{3}{4} 9.1 \text{ kPa}$). Serum potassium and chloride levels were decreased (3.5 and 72 mmol/l, respectively), but the urinary chloride concentration was initially increased (50 mmol/l). Water and electrolyte deficits were carefully replaced, and reduction of self-induced vomiting was achieved. The blood pH was restored, and the ventilation was improved.

Metabolic alkalosis associated with chronic renal failure is extremely rare. Severe loss of acid gastric juice appears to be a cause of this condition. Care should be taken in the management of chronic renal failure combined with bulimia nervosa.

KAKGEI\

E-Mail karger@karger.ch Fax+ 41 61 306 12 34 <http://www.karger.ch>

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