

저나트륨혈증 환자에서 톨바탄 투여후 발생한 급성 수분이뇨

고신대학교 의과대학 내과학교실¹, 비뇨기과학교실²

김수영¹, 양정욱¹, 이혜연¹, 김예나¹, 신호식¹, 정연순¹, 임학¹, 류현열²

Acute Aquaresis after Tolvaptan Administration in a Hyponatremic Patient

Soo Young Kim¹, Jung Wook Yang¹, Hyeyeon Lee¹, Ye Na Kim¹, Ho Sik Shin¹
Yeon Soon Jung¹, Hark Rim¹, Hyun Yul Rhew²

Department of Internal Medicine¹, Urology², Kosin University College of Medicine

Hyponatremia results from a relative excess of total body water compared with sodium content. With the exception of primary polydipsia, vasopressin activation plays a major role in the pathogenesis of water retention. Consequently, increase in solute-free water clearance via inactivation of vasopressin action is a more reasonable therapeutic approach than the addition of sodium. Tolvaptan is a new agent for the treatment of normovolemic and hypervolemic hyponatremia. Tolvaptan is a V2 receptor antagonist that induces free water diuresis, and was well tolerated by patients in recent large-scale studies. Common side effects include thirst, dry mouth and polyuria. We experienced a hyponatremic patient with acute aquaresis after V2 receptor antagonist administration. A 51-year-old man was admitted due to nausea, diarrhea and abdominal discomfort lasting several days. On admission, the mental status of the patient was stuporous and he was transferred to our hospital. The patient's initial Na level was 108 meq/L. After administration of tolvaptan, he became polyuric, producing more than 30 L urine/day. Despite the control of polyuria with indomethacin, ACE inhibitor, and Fludrocortison, his symptoms persisted for 40 days. Our patient exhibited an unusual response to a two dose of oral tolvaptan, producing a large amount of dilute urine. Such acute aquaresis has not been reported previously. A meta-analysis found an average increase in water clearance of only 68 mL/h after tolvaptan treatment, while the maximum water clearance after tolvaptan treatment in our patient was 2900 mL/h. Such an unexpected response required intensive monitoring of serum sodium levels and intravenous administration of hypotonic fluid to avoid rapid correction of hyponatremia.

Key Words: 톨바탄, 저나트륨혈증, 수분이뇨

Tolvaptan, Hyponatremia, Aquaresis