

International Conference and Exhibition on Nephrology & Therapeutics

August 20-22, 2012 Hilton Chicago/Northbrook, USA

Complexity of differentiating cerebral-renal salt wasting from SIADH, emerging importance of determining fractional urate excretion

John K. Maesaka

Department of Medicine, Winthrop-University Hospital, SUNY Medical School, USA

verebral salt wasting (CSW), or the preferred and more appropriate term, renal salt wasting (RSW), continues to be an /ill-defined syndrome that requires clarification. Presently, there is general agreement that RSW does exist, but there is disagreement over its prevalence, generally considered to be common among neurosurgeons and SIADH to be more common than RSW among internists. This difference in estimating the prevalence of both disorders defines how difficult it is to differentiate RSW from SIADH. Resolution of this discrepancy becomes vital because of divergent therapeutic goals for both syndromes, to administer salt and water to volume-depleted patients with RSW and to water-restrict water-loaded patients with SIADH. The awareness that even mild hyponatremia induces symptoms with potentially serious consequences has led to a tendency to treat all hyponatremic patients, thus introducing a therapeutic urgency to differentiate RSW from SIADH. To add further uncertainty to this diagnostic and therapeutic dilemma are the recent reports of RSW occurring in patients without clinical cerebral disease.. The approach to the diagnosis and treatment of hyponatremia can thus be considered to be in a state of flux. We intend to discuss: 1. why it is so difficult to differentiate RSW from SIADH, 2. present data to confirm RSW to be much more common than SIADH in neurosurgical patients, 3. an updated definition of RSW, 4. review how determination of fractional excretion (FE) of urate can play a pivotal role in evaluating patients with hyponatremia, emphasizing how a previously increased FEurate will normalize to 4-11% in SIADH and remain persistently increased in RSW after correction of hyponatremia by water-restriction or hypertonic saline, 5. present data to support our contention that an increased FEurate with normonatremia without correction of previous hyponatremia is consistent with RSW, 6. a normal FEurate with hyponatremia in a nonedematous patient is highly suggestive of reset osmostat, 7. present a new algorithm to approaching patients with hyponatremia, 8. demonstrate natriuretic activity in plasma of patients with RSW, 9. Present data on RSW occurring in patients without cerebral disease, 10. briefly review treatment modalities in RSW 11. propose changing CSW to RSW and 12. suggest eliminating reset osmostat as a subtype of SIADH because of normal FEurate and predictability of ADH response to changes in plasma osmolality.

Biography

Dr. John Maesaka is a graduate of Harvard College and Boston University School of Medicine with medical residencies in internal medicine at Barnes Hospital in St. Louis, MO and Mt. Sinai Medical Center in New York City, and nephrology fellowship at Mt. Sinai Medical Center. He spent 5 years in the micropuncture laboratory at Mt. Sinai, studying uric acid and phosphate transport. He was chief of the renal section at the E. Orange VA Medical Center in New Jersey, Chief of Nephrology and Hypertension at the Long Island Jewish Medical Center and presently at Winthrop-University Hospital, which is the clinical center of SUNY Stony Brook Medical School where he is Professor of Medicine. His publications presently focus on urate metabolism, most importantly the determination of fractional urate excretion rates in hyponatremic conditions. He just completed a chapter on renal salt wasting for two books. His description of renal salt wasting in patients without cerebral disease is an impetus to change cerebral salt wasting to renal salt wasting and his report on reset osmostat provides valid data to justify eliminating reset osmostat as a subtype of SIADH. Based on a large body of evidence, Dr. Maesaka will utilize the determination of fractional urate excretion as the pivotal determination in a new algorithm that he will present in the evaluation of nonedematous hyponatremia.

JMaesaka@Winthrop.org