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Novel therapies for treating hyponatremia

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The treatment of hyponatremia, especially euvolemic and hypervolemic hyponatremia, has changed with the development of vasopressin receptor antagonists. Conivaptan, a vasopressin receptor antagonist, has recently been approved by the FDA in the USA . This report summarizes one center's experience with ten patients treated with this new intravenous drug. The patients had serum sodium levels <128 mEq/l. Conivaptan was given as a 20-mg intravenous loading dose followed by a 20-mg continuous 24-h infusion. Six of the ten patients had an excellent response to the therapy with serum sodium increasing by a mean of 8.5±0.8 mEq/l (increases ranged from 7 to 12 mEq/l over 24 h. Tolvaptan, an oral, selective arginine vasopressin (AVP) V2 receptor antagonist has also been approved in the USA. This report also summarizes experience with thirteen patients treated for hyponatremia with one 15-mg dose of tolvaptan. Eight patients had a diagnosis of the syndrome of inappropriate antidiuretic hormone (SIADH), and five patients had a diagnosis of congestive heart failure (CHF). The mean increase in SNa of 6.4 mEq/L (range 2-10 mEq/L) 24 h post-tolvaptan was not different in the two groups of patients, but SIADH patients had higher pre and post-tolvaptan SNa levels. Urine osmolalities (UOsm) decreased in all patients, but the patients with SIADH had significantly higher baseline UOsm and a larger decrease in UOsm 12 h post-tolvaptan administration. The magnitude of increase in SNa levels was inversely related to pretolvaptan AVP levels in the SIADH subgroup (r=-0.7, P=0.01. The data show that tolvaptan may produce differing responses in disparate patient groups.

Biography

Michael F Michelis is Director of Nephrology at Lenox Hill Hospital in New York and Clinical Professor of Medicine at New York University School of Medicine. He received his training in renal disease at the University of Pittsburgh and was a member of the faculty there before moving to New York. He is a Fellow of the American College of Physicians, a Specialist in Clinical Hypertension and a Fellow of the American Society of Nephrology. He has been principal investigator on many clinical trials and has authored numerous publications. He directed clinical studies which characterized an unrecognized genetic kidney disease now referred to as Michelis-Castrillo Syndrome.

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