Mini-Lecture 6

저나트륨혈증과 사망률

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Hyponatremia and Mortality

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Hyponatremia is one of the most common biochemical abnormalities encountered in hospital practice (about 15% of patients in one survey). Hyponatremia has a wide variation of definitions. Estimates of its prevalence and the prognosis depend on the studied population and the cut-off level that is used for the plasma or serum sodium level. Hyponatremia is generally defined as a serum sodium level of less than 135 mmol/l. Severe hyponatremia is defined as a serum sodium level of less than 120-125 mmol/l.

The few studies have shown that hyponatremia is associated with an increased risk of mortality. In a meta-analysis that involved hospitalized patients with severe hyponatremia, the prevalence of severe hyponatrema was 0.9-2.6% and the in-hospital mortality was 5-51%. This shows that severe hyponatremia is a serious medical condition that is associated with a high rate of morbidity and mortality. The severity of symptoms and signs depends on the degree of hyponatremia and the rapidity of the fall in plasma sodium. There is general agreement that the nature of the underlying illness and the rate of fall of plasma sodium are important in determining the likelihood of development of neurologic sequel and the mortality.

Of the hyponatremic patients, we studied 116 severe hyponatremic patients. Severe hyponatremia was defined as a serum sodium concentration equal to or less than 120 mmol/l at least twice. The mean age of the patients was 67.3± 14.9 years. The mean sodium level at the time of diagnosis was 114.9±5.2 mmol/l. Normal extracelluar fluid volume (ECFV) was reported in 44 patients (37.9%). 24 (20.7%) of 44 patients were diagnosed with the syndrome of inappropriate antidiuretic hormone secretion (SIADH). Excess ECFV and depleted ECFV were reported in 37 (31.9%) and 18 patients (15.5%), respectively. In 17 patients (14.7%), the exact causes could not be determined due to incomplete laboratory studies. On the univariate analysis, age (p=0.030), the Charlson's risk index (p=0.000) and the correction rate (p=0.000) were associated with the 1-year survival. The time of onset (p=0.051) and the initial serum sodium level (p=0.986) were not associated with the 1-year survival. On the multivariate analysis, the Charlson's risk index (p= 0.003) and the correction rate (p=0.033) were independently associated with 1-year survival. In this study showed that the sodium level per se is not related to mortality, but a higher Charlson's risk index and a slow rate of correcting the sodium are related with mortality. For improving the survival of patients with severe hyponatremia, we should pay more attention to correct the underlying comorbidity.