

Salt Sensitivity of Blood Pressure: Its Basic Entity and Clarification of Definition

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Summary

It is well known that hypertensive patients whose blood pressure is sensitive to the change in the amount of sodium intake have high risk leading to cardiovascular events. In addition, these events are expected to be prevented by sodium intake restriction.

Therefore, it is very important to develop the methods to detect salt sensitivity precisely. Usually, salt sensitivity is defined to be high when blood pressure is altered more than 10 % by the change in salt intake. However, this method is confused because the change in blood pressure is dependent on the magnitude of change in salt intake. We proposed new method to determine salt sensitivity by estimating the change in blood pressure dividing by the change in urinary sodium excretion rate. The new way can determine salt sensitivity independently of the magnitude of change in salt intake or the order of changes, and is now called sodium sensitivity index. Although hypotensive effects of diuretics is stronger and nocturnal dip in blood pressure is less pronounced in patients with higher salt sensitivity, these effects are also dependent on the amount of salt intake.

Finally, salt sensitivity must be evaluated in two-dimensional way, using both the changes in blood pressure as well as urinary sodium excretion as a marker of sodium intake. There are several genes proposed as candidate markers to reflect salt sensitivity. To clarify the candidate genes, precise ways to describe salt sensitivity are now highly required.