

Individual Differences in Salt Receptors That Produce Differences in Intake Salt Concentration Threshold and Involvement of Intestinal Microflora

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Summary

In this study, polymorphism analysis of the salty taste receptor ENaC, methylation analysis and intestinal microflora were performed, and these data were examined about the associations of the salty taste threshold and dietary content of participants.

Twenty healthy adult volunteers (average age was 39 years old) who did not have a specific disease were analyzed and the presence or absence of a taste disorder was diagnosed using an electric taste meter. In addition, we got a taste interview questionnaire to grasp the taste. Furthermore, using a body fat scale, the age, sex, height, weight, basal metabolism, body fat, visceral fat, subcutaneous fat, BMI, muscle composition, body composition, bone density and balance age were measured. Polymorphism analysis of salt receptor ENaC R563Q was performed. Methylation of this gene will be analyzed by MSP method. For determination of salty taste threshold value, salt-impregnated filter paper was used, but no significant difference was observed. Analysis of the intestinal microflora is carried out by consulting analysis after extraction of DNA from feces. Test of taste disorder was ranged from -2 to 12 dB in the electrical measuring instrument. Since the normal range is set to 8 or 14, it can be considered to be within the range of individual differences. The questionnaire survey on taste preference and dietary life is currently being calculated. Basal metabolism and BMI were varied due to the presence of both males and females. Regarding the polymorphism analysis and methylation test of the salty taste receptor ENaC, DNA has already been extracted. The volunteer's entry was delayed from the planned time, so it is currently under preparation for analysis. No obvious difference was observed in the salty taste threshold as described above. Feces for analysis of intestinal microflora could also be collected from all participants. Currently, we are extracting DNA, and we have ordered consignment analysis.

Discussion

At the initial plan, it was predicted that the difference in salt intake thresholds of individuals will be discovered by kit. But in this study method, there was no significant threshold difference in salt intake between research participants.

Since we are collecting inquiries concerning the taste preference, we are studying the relevance to these questions.