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若年女性のアルコール摂取とヘモグロビン A1c との関係性

(Relationship between alcohol intake and hemoglobin A1c levels in young women)

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Abstract

Moderate alcohol consumption can reduce the risk of developing type 2 diabetes, whereas the association between alcohol consumption and diabetes has remained unclear in Japanese women. The prevalence of higher hemoglobin A1c (HbA1c) levels and the age adjusted mortality rates of diabetes are high in women in Choshi City in Chiba prefecture. Our previous findings suggested an association between HbA1c levels and dietary habits in young women in the city. Therefore, this study aimed to determine the association between HbA1c with ingested nutrients/foods.

The study enrolled 372 women (age, 20 – 39 y) who attended a medical examination conducted by the city during 2015 and provided written, informed consent to participate. Their dietary habits were assessed using a brief-type self-administered diet history questionnaire (BDHQ). Exclusion criteria comprised weight changes of over ± 3 kg during the previous 12 months and unnatural energy intake determined from the BDHQ (< 600 or ≥ 4000 kcal/d). After excluding 73 women, associations between HbA1c and the consumption (density per 1,000 kcal) of 51 nutrients/substances and 70 foods were analyzed in 299 participants.

HbA1c was significantly and negatively associated only with total alcohol ($R = -0.263$, $P < 0.001$) and beer ($R = -0.211$, $P < 0.001$) consumption and became elevated as BMI increased from < 22 to ≥ 25 ($P < 0.005$, Shirley-Williams test). Nevertheless, alcohol consumption was distinctly negatively associated with HbA1c at BMI of < 22 ($R = -0.257$, $P < 0.001$) and ≥ 25 ($R = -0.238$, $P < 0.05$).

Therefore, habitual alcohol consumption could lower HbA1c levels in young Japanese women.