

## 低血糖と認知症のリスクの関係(150410)

低血糖を繰り返すと、その後の認知症に影響をするのか。学生と一緒に抄読会。

文献は2型糖尿病の高齢患者を27年フォローしたコホート研究。

重症の低血糖発作は認知症のリスクを上昇させる要因になっていそうだ。

At least 1 episode of hypoglycemia was diagnosed in 1465 patients (8.8%) and dementia was diagnosed in 1822 patients (11%) during follow-up; 250 patients had both dementia and at least 1 episode of hypoglycemia (16.95%). Compared with patients with no hypoglycemia, patients with single or multiple episodes had a graded increase in risk with fully adjusted hazard ratios (HRs): for **1 episode (HR, 1.26; 95% confidence interval [CI], 1.10–1.49); 2 episodes (HR, 1.80; 95% CI, 1.37–2.36); and 3 or more episodes (HR, 1.94; 95% CI, 1.42–2.64)**. The attributable risk of dementia between individuals with and without a history of hypoglycemia was 2.39% per year (95% CI, 1.72%–3.01%).

Table 3

Hypoglycemia and risk of incident dementia<sup>a</sup>

No. of Hypoglycemic Episodes <sup>b</sup>	No. of Dementia Cases	Hazard Ratio (95% Confidence Interval)		
		Adjusted for Age (As Time Scale), BMI, Race/Ethnicity, Education, Sex, and Duration of Diabetes	Additionally Adjusted for Comorbidities <sup>c</sup>	Additionally Adjusted for 7-Year Mean HbA <sub>1c</sub> Level, Diabetes Treatment, and Years of Insulin Use
1 or more	250	1.68 (1.47-1.93)	1.48 (1.29-1.70)	1.44 (1.25-1.66)
1	150	1.45 (1.23-1.72)	1.29 (1.10-1.53)	1.26 (1.10-1.49)
2	57	2.15 (1.64-2.81)	1.86 (1.42-2.43)	1.80 (1.37-2.36)
3 or more	43	2.60 (1.78-3.79)	2.10 (1.48-2.73)	1.94 (1.42-2.64)

Abbreviations: BMI, body mass index; HbA<sub>1c</sub> glycosylated hemoglobin.

<sup>a</sup>Analyses combined using Cox proportional hazard models.

<sup>b</sup>The 1 or more group was compared to 0 and 1, 2, and 3 or more groups were simultaneously compared to 0.

<sup>c</sup>Adjustment made using a comorbidity composite scale.

(参考文献 1 より引用)

糖尿病患者を対象とした別のコホート研究。

これでもやはり病院の記録に残るような低血糖は認知症のリスクを上昇させている。

During the 12-year follow-up period, 61 participants (7.8%) had a reported hypoglycemic event, and 148 (18.9%) developed dementia. Those who experienced a hypoglycemic event had a 2-fold increased risk for developing dementia compared with those who did not have a hypoglycemic event (34.4% vs 17.6%,  $P < .001$ ; **multivariate-adjusted hazard ratio, 2.1; 95% CI, 1.0–4.4**). Similarly, older adults with DM who developed dementia had a greater risk for having a subsequent hypoglycemic event compared with participants who did not develop dementia (14.2% vs 6.3%,  $P < .001$ ; multivariate-adjusted hazard ratio, 3.1; 95% CI, 1.5–6.6).

Table 2

Multivariate-Adjusted Cox Proportional Hazards Regression Estimates for Time to Dementia Associated With a Hypoglycemic Event

Variable	Hazard Ratio (95% CI)
Hypoglycemic event	2.09 (1.00–4.35)
Age	1.15 (1.08–1.22)
Black race/ethnicity	0.77 (0.51–1.16)
Female sex	0.78 (0.54–1.12)
Education	1.30 (0.85–1.96)
APOE $\epsilon$ 4 status	2.17 (1.53–3.08)
Prevalent diabetes mellitus	1.70 (1.12–2.58)
Insulin use	1.04 (0.64–1.67)
Glycated hemoglobin level	1.00 (0.85–1.17)
Baseline Mini-Mental State Examination score	0.96 (0.93–0.99)

Abbreviation: APOE, apolipoprotein E.

(参考文献 2 より引用)

もちろん、低血糖を予防するのは、認知症を予防するためだけでは無い。短期的にも、長期的にも、患者にとって有害であることは意識しておきたい。

#### 参考文献

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