

Association between use of oral hypoglycemic agents in Japanese patients with type 2 diabetes mellitus and risk of depression: a retrospective cohort study

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Type 2 diabetes mellitus (T2DM) is a risk factor for depression. Since brain insulin resistance plays a potential role in depression, the future risk of depression in patients with T2DM may be altered depending on the class of oral hypoglycemic agent (OHA) used for T2DM therapy. The aim of the present study was to determine if specific classes of OHAs are associated with a risk for co-morbid depression in T2DM. Japanese adult patients with T2DM (n = 40,214) were divided into a case group (with depression; n = 1,979) and control group (without depression; n = 38,235). After adjustment for age [adjusted odds ratio (AOR) for 10 years: 1.03; 95% confidence interval (CI): 0.99 – 1.07; P = 0.1211], sex [AOR for female: 1.39; 95% CI: 1.26 – 1.53; P < 0.0001], hemoglobin A1c [AOR for 1.0%: 1.18; 95% CI: 1.11 – 1.26; P < 0.0001], duration of T2DM [AOR for 1 year: 1.00; 95% CI: 0.99 – 1.01; P = 0.4089], and history of seven medical conditions, the odds ratios for the development of depression was significantly lower for dipeptidyl peptidase-4 (DPP-4) inhibitors [AOR: 0.31; 95% CI: 0.24 – 0.42; P < 0.0001]. However, there was no significant association for the other classes of OHAs. Therefore, this study finds that there is less risk of depression associated with the use of DPP-4 inhibitors for the treatment of T2DM.