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TITLE

Association Between Vitamin D Receptor Polymorphisms and Type 2 Diabetes Mellitus: A HuGE Review and Metaanalysis

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any previous studies that examined the association between vitamin D receptor (VDR) gene Many previous studies that examined the accounted end of the account of the polymorphisms and type 2 diabetes mellitus (T2DM) produced conflicting results. This systematic review and meta-analysis is conducted to evaluate previous studies and summarize the effects of VDR gene variation with risk of T2DM. We searched PubMed/Medline, EMBASE, Cochrane, and CBMweb/CBMdisc for relevant published literatures up to September 7, 2011. Two investigators checked these articles and extracted data independently. The odds ratios (ORs) and 95% confidence intervals (CIs) were pooled by using a random- or fixed- effect model.16 case-control studies enrolling 1899 T2DM patients and 3163 controls met the selection criteria, including 4, 10, 8, 9 and 1 studies eligible for single nucleotide polymorphisms (SNPs) FokI, BsmI, ApaI, TaqI and Tru9I, respectively. The pooled ORs and 95% CIs indicated no statistically significant association. The summary OR for T2DM among individuals with risk allele vs protective allele was 1.064 (95% CI: 0.947, 1.196). For BsmI, pooled OR was 1.021 (95% CI: 0.732, 1.424); for ApaI, pooled OR was 1.067 (95% CI: 0.957, 1.190); for TaqI, pooled OR was 1.040 (95% CI: 0.878, 1.233). No publication bias was observed. For FokI, pooled OR was 1.258 (95% CI: 1.066, 1.485), however, publication bias existed (p < 0.05), the pooled OR after trim-fill adjustment was 0.88 (95% CI: 0.68, 1.15). Sensitivity analyses further strengthened the validity of these associations. In conclusion, no sufficient evidence was found to support an association between the VDR gene polymorphisms and risk of T2DM.

Biography

Xiao Xiao has completed her B.S. of medicine at the age of 22 years from Tongji Medical College, Huazhong University of Science and Technology, China, and now is studying for her master's degress of medicine, major in Nutrition and Chronic medicine. She has participated in three National Nature Science Foundation of China (NSFC), these research projects are all related to type 2 diabetes mellitus.