EXTREME HBA1C LEVELS INCREASED RISKS OF LOWER RESPIRATORY TRACT INFECTIONS IN ELDERS WITH TYPE 2 DIABETIC: TAIWAN DIABETES STUDY

極端的糖化血色素值會增加糖尿病老人下呼吸道感染的風險：臺灣糖尿病研究

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The purpose of the study was to explore the association between glycated hemoglobin (HbA1c) and the risk of lower respiratory tract infections (LRTI) in elders with type 2 diabetes. We conducted a retrospective cohort study involving 17,049 elders with type 2 diabetes, who participated in the National Diabetes Case Management Program during 2001-2004 in Taiwan. HbA1c at baseline and LRTI events before 2011 were analyzed with Cox proportional hazards regression models. During an average of 6.73 years of follow-up, a total of 5177 incidence cases of LRTI were identified, corresponding to a crude incidence rate of 44.60/1000 person-years (52.46 for men and 38.42 for women). After multivariate adjustment, the LRTI risk increased among patients with HbA1c levels <6.0%, 9-10, and ≥10.0 % compared with that in patients with HbA1c levels ranging from 6.0% to 7.0% (hazard ratio: 1.19, 95% confidence interval (CI): 1.08-1.32; 1.21, 1.10-1.34; and 1.37, 1.25-1.50, respectively). A U-shaped relationship was observed between HbA1c levels and LRTI incidence. The consistency of our findings by sensitivity analysis supports the argument that extreme HbA1c levels increase the risk of LTTI in elders with type 2 diabetes. Future studies should be conducted to determine how to meet the recommended HbA1c targets that could reduce the risk of LRTI.