

Modification of the Risk for Incident Cancer with Changes in the Metabolic Syndrome Status: A Prospective Cohort Study in Taiwan

Authors : Yung-Feng Yen, Yun-Ju Lai

Abstract : Background: Metabolic syndrome (MetS) is reversible; however, the effect of changes in MetS status on the risk of incident cancer has not been extensively studied. We aimed to investigate the effects of changes in MetS status on incident cancer risk. Methods: This prospective, longitudinal study used data from Taiwan's MJ cohort of 157,915 adults recruited from 2002-2016 who had repeated MetS measurements 5.2 (± 3.5) years apart and were followed up for the new onset of cancer over 8.2 (± 4.5) years. A new diagnosis of incident cancer in study individuals was confirmed by their pathohistological reports. The participants' MetS status included MetS-free (n=119,331), MetS-developed (n=14,272), MetS-recovered (n=7,914), and MetS-persistent (n=16,398). We used the Fine-Gray sub-distribution method, with death as the competing risk, to determine the association between MetS changes and the risk of incident cancer. Results: During the follow-up period, 7,486 individuals had new development of cancer. Compared with the MetS-free group, MetS-persistent individuals had a significantly higher risk of incident cancer (adjusted hazard ratio [aHR], 1.10; 95% confidence interval [CI], 1.03-1.18). Considering the effect of dynamic changes in MetS status on the risk of specific cancer types, MetS persistence was significantly associated with a higher risk of incident colon and rectum, kidney, pancreas, uterus, and thyroid cancer. The risk of kidney, uterus, and thyroid cancer in MetS-recovered individuals was higher than in those who remained MetS but lower than MetS-persistent individuals. Conclusions: Persistent MetS is associated with a higher risk of incident cancer, and recovery from MetS may reduce the risk. The findings of our study suggest that it is imperative for individuals with pre-existing MetS to seek treatment for this condition to reduce the cancer risk.

Keywords : metabolic syndrome change, cancer, risk factor, cohort study

Conference Title : ICDM 2023 : International Conference on Diabetes and Metabolism

Conference Location : New York, United States

Conference Dates : July 06-07, 2023