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# 639 - METABOLIC SYNDROME, INCIDENCE AND SURVIVAL OF HEMATOLOGICAL CANCERS: A POPULATION-BASED STUDY USING ELECTRONIC HEALTH RECORDS IN CATALONIA

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## Resumen

Background/Objectives: Metabolic syndrome (MS) is a cluster of cardiometabolic abnormalities associated with increased cancer risk, but evidence on its role in hematological cancer incidence and prognosis is limited. We evaluated the association between MS and the incidence and post-diagnosis survival of Hodgkin lymphoma, non-Hodgkin lymphoma, and leukemia.

Methods: We conducted a population-based longitudinal study using SIDIAP electronic health records from Catalonia. Participants were followed from cohort entry until hematological cancer diagnosis, death, transfer, or end of follow-up. For incidence analyses, 3,918,781 individuals aged ? 40 years were followed between 2008 and 2017. MS was defined by obesity, hypertension, elevated glucose, elevated triglycerides, and low HDL cholesterol. Analyisis incidence was evaluated through Cox proportional hazards models estimated hazard ratios (HRs) and 95% confidence intervals (CIs) for MS categories (0, 1, 2, ? 3 components), number of components (0-5), and component combinations, adjusted for age, sex, MEDEA deprivation index, smoking, alcohol consumption, and nationality. For survival analyses, 7,002 incident hematological cancer cases were followed from diagnosis until death or end of follow-up. Survival was assessed using Kaplan-Meier curves, 5-year survival, and remaining life expectancy (RLE), stratified by sex and MS categories.

Results: MS was associated with increased incidence of hematological cancers. Compared with individuals without MS components, the HR for MS (? 3 components) was 1.77 (95%CI: 1.38-2.27) for Hodgkin lymphoma, 1.73 (1.54-1.94) for non-Hodgkin lymphoma, and 2.39 (2.18-2.63) for leukemia, showing a consistent dose-response pattern. Among two-component combinations, those including low HDL cholesterol and elevated glucose showed the highest incidence risks across cancers. After diagnosis, MS was associated with poorer survival. Five-year survival decreased with increasing MS burden in both sexes. Among women with ? 3 MS components, 5-year survival was 61.1% for Hodgkin lymphoma, 62.7% for non-Hodgkin lymphoma, and 56.0% for leukemia, compared with 91.7%, 91.8 and 79.7 in women without MS; in men, corresponding survival was 71.1%, 60.5%, and 54.6%, versus 90.4%, 87.7%, and 76.4%. MS was also associated with reduced RLE after diagnosis, with decreases of 13.0, 10.5, and 5.6 years in women and 8.0, 8.1, and 3.4 years in men, respectively.

Conclusions/Recommendations: MS was associated with both a higher risk of developing hematological cancers and poorer survival after diagnosis, with a consistent gradient according to the number of components. Results were consistent across sex and cancer subtypes. MS may play a relevant role in their etiology and prognosis.