

Study finds association between TB infection and increased risk of various cancers

March 31 2024



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A population-wide observational study to be presented at this year's [European Congress of Clinical Microbiology and Infectious Diseases](#) (ECCMID 2024) in Barcelona, Spain (27-30 April) shows an association between tuberculosis (TB) and cancer, with those with current or previous TB more likely to have a diagnosis of a variety of cancers, including lung, blood, gynecological and colorectal cancers.

Despite successful cure of TB being possible, complications can occur at various anatomical sites due to structural or vascular damage, metabolic abnormalities and host inflammatory response. These complications may include an increased risk of cancer, which may be influenced by host tissue and DNA damage, and/or interruption of normal gene repair processes and [growth factors](#) present in the blood.

In this study, the authors investigated the association between [cancer incidence](#) and TB compared with the general population.

They retrospectively reviewed data from the National Health Insurance Service-National Health Information Database of South Korea between 2010 and 2017. Patients with TB were defined as those with a disease code for TB entered into the system, or treated with two or more TB drugs for more than 28 days.

The [control group](#) from the general population was randomly selected in a 1:5 ratio and matched for sex, age, income level, residence, and index year. The authors analyzed the incidence of newly diagnosed cancer patients after enrollment (post-TB diagnosis).

The primary outcome was the incidence of cancer in patients diagnosed with TB infection in the period 2010–2017 compared with the matched cohort. The secondary outcomes were to investigate the risk factors for

cancer incidence in TB patients.

The final analysis included a total of 72,542 patients with TB and 72,542 matched controls. The mean follow-up duration was 67 months (around five-and-a-half years), and the mean age in patients with TB was 62 years.

Compared with the general population, the incidence of cancer was significantly higher in TB patients: 80% higher for all cancers combined; 3.6 times higher for lung cancer, 2.4 times higher for blood (hematological) cancers; 2.2 times higher for gynecological cancer; 57% higher for colorectal cancer; 56% higher for thyroid cancer and 55% higher for esophagus and stomach cancer.

After adjustment, current smoking (40% increased risk versus non-smokers), heavy alcohol consumption (15% increased risk versus regular alcohol consumption) [chronic liver disease](#) (42% increased risk versus no liver diseases) and chronic obstructive pulmonary disease (COPD) (8% increased risk) were also identified as independent [risk factors](#) for cancer in people with TB.

The authors say, "TB is an independent risk factor for cancer, not only lung cancer, but also various site-specific cancers, after adjusting for confounders. Screening and management for cancer should be warranted in patients with TB."

The study was led by Dr. Jiwon Kim, National Health Insurance Service, Ilsan Hospital, Goyang, South Korea, and Dr. Jinnam Kim, Hanyang University College of Medicine, Seoul, South Korea, and colleagues.

Provided by European Society of Clinical Microbiology and Infectious Diseases

Citation: Study finds association between TB infection and increased risk of various cancers (2024, March 31) retrieved 21 May 2024 from <https://medicalxpress.com/news/2024-03-association-tb-infection-cancers.html>

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