

Gout is associated with an increased risk of cancer – a nationwide cohort study including over 70,000 gout patients

K. Zobbe^{1,2}, D. Prieto-Alhambra^{3,4}, R. Cordtz^{1,2}, L. Mellekjær⁵, P. Højgaard^{1,2}, L.E. Kristensen¹, L. Dreyer^{1,2,6}

1. The Parker Institute, Bispebjerg and Frederiksberg Hospital, Frederiksberg
2. Center for Rheumatology and Spine Diseases, Rigshospitalet/Glostrup, Hellerup, Denmark
3. GREMPAL Research Group, Idiap Jordi Gol and CIBERFes, Universitat Autònoma de Barcelona and Instituto de Salud Carlos III, Barcelona, Spain
4. Centre for Statistics in Medicine, NDORMS, University of Oxford, Oxford, UK
5. Danish Cancer Society Research Center, Copenhagen
6. Department of Rheumatology, Aalborg University Hospital, Aalborg, Denmark

Background

In addition to the possible carcinogenic effect of chronic inflammation, gout patients may experience increased risk of cancer due to additional risk factors such as obesity, diabetes, sedentary lifestyle, smoking and increased alcohol consumption. There is limited data on the association between gout and different cancer types. We investigated the incidence of cancer among Danish gout patients compared to national cancer rates.

Methods

All patients diagnosed with gout in the period 1978–2015 according to the Danish National Patient Registry (including in- and outpatient hospital contacts) were linked with The Danish Cancer Registry to identify incident cancers. Follow-up for cancer started at date of first gout diagnosis and ended at date of cancer, death, emigration or end of 2015, whichever came first. Standardised incidence ratios (SIR) were calculated using sex and 5 year age and calendar-specific incidence rates for first primary cancers in the general population in Denmark.

Results

We observed 6205 first primary cancers among 70 591 gout patients. Compared to an expected number of 5308 in the general population, this corresponded to a SIR for any-cancer of 1.17 (95% confidence interval (CI): 1.14–1.20). SIRs were highest for cancer sites associated with smoking, obesity and excess alcohol consumption: mouth/tongue, pharynx, oesophagus, liver, pancreas, lung, pleura and kidney (table 1). Excess risks were also observed for colorectal cancer, breast cancer, endometrial cancer, multiple myeloma and other types of leukaemia but not for Hodgkin and Non-Hodgkin lymphomas.

Conclusions

Gout patients are at risk of cancer, especially cancer types associated with smoking, obesity and excess alcohol consumption, but also multiple myeloma and leukaemia. It is unknown if uric-acid lowering therapy and/or lifestyle changes reduce this risk.