Appendix S1

MATERIALS AND METHODS

The study was approved by the Danish Data Protection agency (ref. 2007-58-0015, int. ref. GEH-2014-018, I-suite 02736). Register studies in Denmark do not require a review from an ethics committee. Conduct of the study was in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) recommendations.

Data sources

Data for this study were retrieved from nationwide Danish registries. All Danish citizens receive tax-supported healthcare from the Danish National Health service with free and universal access to hospitals and general practitioners. The Danish National Patient Register holds information on all hospital contacts registered with International Classification of Diseases (ICD)-10 codes and was used to obtain data on exposure, morbidity, and outcomes in the study population. A unique civil registration number given to all Danish citizens at birth or immigration allowed for linkage between the registers. Tax-reported household income was collected from records by Statistics Denmark.

Study population and covariates

The source population in this study was defined as the entire Danish population aged ≥18 years from 1 January 1997 until 31 December 2012. As study cases, we identified all patients with a hospital (inpatient or ambulatory) diagnosis of AD (ICD-10 L20). Each case was matched on age, sex, and calendar time with 5 controls, randomly sampled from the source population. The index date was defined as the time of the first diagnosis of AD for each case and was the same for the corresponding controls.

The selected cancers were identified during the same study period (1997–2012) based on ICD-10 codes. We calculated an age-standardized socioeconomic level based on the tax reported mean household income up to 5 years before study inclusion. Healthcare utilization was identified as the total number of hospital/clinic visits during the study period. Collection of data on smoking and alcohol abuse has been described in detail elsewhere (S1, S2).

Statistical analysis

We described baseline characteristics with means and standard deviations for continuous variables and frequencies and percentages for categorical variables. Crude and adjusted odds ratio were estimated using logistic regression analyses and multivariate models were adjusted for age, sex, socioeconomic status, and healthcare consumption. To address the "multiple comparisons" problem, the *p*-values were Bonferroni corrected, and therefore *p*-values <0.003 were considered statistically significant. To further investigate the impact of smoking and alcohol abuse in pancreatic cancer and cervical cancer, we performed sensitivity analyses, where a proxy variable for smoking and diagnosis for alcohol abuse were included in the adjusted model. Results were presented with 95% CIs, where applicable. Statistical analyses were performed with STATA software version 13.0 (StataCorp, College Station, TX, USA) and SAS statistical software version 9.4 (SAS Institute Inc. Cary, NC, USA).

SUPPLEMENTARY REFERENCES

S1. Egeberg A, Gislason GH, Hansen PR. Risk of major adverse cardiovascular events and all-cause mortality in patients with hidradenitis suppurativa. JAMA Dermatology 2016; 152: 429–434.

S2. Egeberg A, Mallbris L, Gislason GH, et al. Risk of multiple sclerosis in patients with psoriasis: A Danish nationwide cohort study. J Invest Dermatol 2016; 136: 93–98.