Smoking cessation is followed by a sharp but transient rise in the incidence of overt autoimmune hypothyroidism – A population-based, case–control study - DTU Orbit (29/12/2018)

Smoking cessation is followed by a sharp but transient rise in the incidence of overt autoimmune hypothyroidism – A population-based, case–control study

Current smoking is associated with a low prevalence of thyroid autoantibodies. On the other hand, smoking withdrawal enhances thyroid autoantibody level and may be a risk factor for the development of hypothyroidism. The aim of this study was to assess the association between smoking habits (smoking cessation in particular) and development of autoimmune hypothyroidism. Population-based, case–control study. Cases (n = 140) newly diagnosed with primary autoimmune overt hypothyroidism were identified prospectively by population monitoring (2 027 208 person-years of observation) of all thyroid function tests performed in the two well-defined geographical areas. Individually, age-, sex- and region-matched euthyroid controls (n = 560) were simultaneously included from the same population. Participants gave details on smoking habits including smoking withdrawal and other lifestyle factors. Smoking habits were verified by measuring urinary cotinine (a nicotine metabolite). Incident hypothyroidism was very common in people who had recently stopped smoking: OR vs never smokers (95%-CI); quit smoking 10 years, 0·76 (0·38–1·51). Results were consistent in both sexes and irrespective of age. Within two years after smoking cessation, the percentage of hypothyroid cases attributable to cessation of smoking was 85%. The current smoking was not associated with altered risk of developing overt hypothyroidism [OR, 0·92 (0·57–1·48)]. The risk of having overt autoimmune hypothyroidism diagnosed is more than 6-fold increased the first 2 years after cessation of smoking. Clearly, smoking cessation is vital to prevent death and severe disease. However, awareness of hypothyroidism should be high in people who have recently quit smoking, and virtually any complaint should lead to thyroid function testing.

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