

Five-year incidence of type 2 diabetes mellitus in patients with familial combined hyperlipidaemia

Dear Editor,

With great interest we read the article by Brouwers *et al.* in which they described the five-year incidence of type 2 diabetes mellitus (T2DM) in patients with familial combined hyperlipidaemia (FCHL).¹ After a mean follow-up period of 4.8±0.5 years, logistic regression analyses were used to compare the age- and sex-adjusted incidence and prevalence of T2DM between FCHL patients (n=56) and their spouses (n=54). The incidence was significantly higher in the FCHL group compared with spouses (14 vs 2%, odds ratio 9.1; 95% CI 1.0 to 81.4). Based on these results, the authors concluded that FCHL patients, as compared with healthy controls, are predisposed to the development of T2DM. However, the mean baseline body mass index (BMI) of the spouses and FCHL patients was 25.5±3.7 and 28.1±3.9 (kg/m²), respectively (p<0.05). The authors did not adjust for this baseline difference in their analyses. Instead, they adjusted

for the change in BMI during the follow-up period, which was not relevantly different between the two groups. Since bodyweight is an extremely important factor in the development of T2DM, we are very interested if the higher incidence of T2DM in FCHL patients still remains after adjustment for the baseline difference in BMI.

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Response to letter to the editor

We agree that the degree of obesity is an important determinant of incident T2DM. However, baseline BMI was not a significant predictor of new-onset T2DM in our cohort (p=0.12), which is probably accounted for by the small sample size, as discussed in our article.¹ Odds ratio (OR) and confidence intervals (CI) for incident T2DM did not change substantially when we additionally adjusted for baseline BMI, although it was no longer significant (OR: 9.1; 95% CI: 1.0 to 81.4; p=0.04, age- and sex-adjusted, versus: OR: 7.5; 95% CI: 0.8 to 70.4; p=0.07, age-, sex- and BMI-adjusted), which again might be attributed to the small sample size. These outcomes in combination with an increased susceptibility to develop hepatic fat accumulation and insulin resistance^{2,3} – both involved in the pathogenesis of T2DM⁴ – suggest that FCHL patients have an increased risk to develop T2DM, independent of the degree of obesity. Nevertheless, these data do require confirmation in an independent FCHL cohort.

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