

Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

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Diabetes

Do 5 α -reductase inhibitors raise the risk of type 2 diabetes?

Finasteride and dutasteride appear to be associated with a modest increase in the risk of developing type 2 diabetes, according to the findings of a retrospective cohort study.

The study was a retrospective analysis of cohorts taken from two general practice databases, the Clinical Practice Research Datalink (CPRD) in the UK and the National Health Insurance Research Database in Taiwan.

The study had two arms. One compared men taking one of two 5 α -reductase inhibitors dutasteride and finasteride with men taking tamsulosin, an α -blocker, and the other compared finasteride and dutasteride. The primary outcome was the development of type 2 diabetes in the follow-up period.

The recruitment was complex, as the eligible patients were propensity scored to allow for other confounding variables that put them at increased risk of developing diabetes. The CPRD yielded a study population, after propensity scoring, of 2,090 men on dutasteride, 3,445 on finasteride and 4,018 on tamsulosin. The equivalent figures for the Taiwan cohort were dutasteride (1,251), finasteride (2,445)

and tamsulosin (2,502).

Mean follow-up time was 5.2 years. In the CPRD group, 2,081 new cases of type 2 diabetes were recorded (368 on dutasteride, 1,207 on finasteride and 506 on tamsulosin).

The event rates in the CPRD suggested an increased risk of diabetes for dutasteride; adjusted hazard ratio (HR) 1.32 (95% CI: 1.08-1.61) and finasteride HR 1.26 (95% CI: 1.1-1.45) compared with tamsulosin. These findings were consistent with the figures from the Taiwanese analysis.

Finasteride and dutasteride are commonly prescribed as long-term treatments for BPH. They prevent the conversion of testosterone to the more active form 5 α -dihydrotestosterone, and thus reduce androgen-dependent growth of the prostate gland. Like many enzymes, 5 α -reductase is also expressed in other tissues, including liver, adipose and skeletal muscle, where it may have other functions.

Earlier short-term studies had suggested that dutasteride may increase insulin resistance. These findings suggest that finasteride and dutasteride should be added to the list of drugs that may increase the risk of developing type 2 diabetes, which includes antihypertensives, statins, antipsychotics, antiretrovirals, immunosuppressants and corticosteroids.

The hazard ratio in this study is small and the authors describe the increase in risk as modest.

Although the two databases provided similar results, the authors acknowledge that they might not have been able to account for all confounding variables.

The study authors conclude: 'Men using steroid 5 α -reductase inhibitors for BPH appear to be at a modest increased risk of developing type 2 diabetes. Caveats exist about biases and confounders within population cohort studies. However, in the light of our findings, the decision to prescribe 5 α -reductase

inhibitors for men with metabolic disease must be considered carefully in the context of other risk factors for type 2 diabetes. In addition, monitoring of fasting glucose may be advisable.'

It is difficult to know how much weight to give this study in everyday practice. GPs may wish to screen men with risk factors for diabetes carefully before and during treatment with finasteride and dutasteride.

DR MATTHEW LOCKYER

Wei L, Lai EC-C, Kao-Yang Y-H et al. Incidence of type 2 diabetes mellitus in men receiving steroid 5 α -reductase inhibitors: population based cohort study. *BMJ* 2019;365:l1204

