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IN BRIEF

OBESITY

Diacylglycerol O-acyltransferase 1 inhibition in patients with overweight

Inhibition of diacylglycerol O-acyltransferase 1 with AZD7687 had intolerable adverse effects when used to treat 62 patients with overweight, report Denison *et al.* In previous animal studies, inhibition of this enzyme had reduced body weight and adiposity and increased insulin sensitivity. By contrast, in this phase I trial, 1 week of treatment with AZD7687 altered lipid handling and hormone secretion in the gut, but also caused diarrhoea, leading to treatment discontinuation in a number of participants.

Original article Denison, H. *et al.* Diacylglycerol acyltransferase 1 inhibition with AZD7687 alters lipid handling and hormone secretion in the gut with intolerable side effects: a randomized clinical trial. *Diabetes Obes. Metab.* doi:10.1111/dom.12221

BASIC RESEARCH

Polycomb and trithorax gene regulation—potential targets for β-cell regeneration

Combined modulation of polycomb group proteins and trithorax proteins holds potential to rejuvenate the replication capacity of β cells in patients with type 1 or type 2 diabetes mellitus. Zhou *et al.* show that conditional expression of the polycomb group gene *Ezh2* in the pancreatic β cells of young adult transgenic mice increases β-cell replication and regeneration. However, in ageing mice, only knockdown of components of the trithorax group protein complex in concert with expression of *Ezh2* is sufficient to increase replication of β cells.

Original article Zhou, J. X. *et al.* Combined modulation of polycomb and trithorax genes rejuvenates β cell replication. *J. Clin. Invest.* doi:10.1172/JCI69468

DIABETES

Phentermine–topiramate extended-release reduces progression to T2DM

Phentermine–topiramate extended-release plus lifestyle modification reduced weight and progression to type 2 diabetes mellitus in overweight or obese patients with prediabetes and/or the metabolic syndrome. In the 108-week, phase III trial of 475 patients, progression to type 2 diabetes mellitus was reduced by 71% and 79% in groups receiving two different doses of phentermine–topiramate extended-release, compared with that in the placebo group.

Original article Garvey, W. T. *et al.* Prevention of type 2 diabetes in subjects with prediabetes and metabolic syndrome treated with phentermine and topiramate extended-release. *Diabetes Care* doi:10.2337/dc13-1518

CANCER

Increased long-term cardiovascular and all-cause mortality in patients with thyroid cancer

The risk of cardiovascular-related and all-cause mortality is increased in patients with differentiated thyroid cancer, report researchers from The Netherlands. The study involved 100 patients followed up for a median of 8.5 years. Lower TSH levels were associated with increased cardiovascular-related mortality. This finding, the investigators conclude, supports current guidelines to temper the use of TSH suppression therapy in patients with a low risk of cancer recurrence.

Original article Klein Hesselink, E. N. *et al.* Long-term cardiovascular mortality in patients with differentiated thyroid carcinoma: an observational study. *J. Clin. Oncol.* doi:10.1200/JCO.2013.49.1043

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