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IN BRIEF

DIABETES

Poor 3-year results for DESMOND diabetes care programme

A diabetes mellitus education and self management programme (DESMOND) aimed at patients with newly diagnosed type 2 diabetes mellitus does not provide sustained benefits at 3 years, researchers say. The programme consists of a single 6h education session focused on improving lifestyle factors, such as food choices, physical activity levels and cardiovascular risk factors. Participants from 207 primary care practices in the UK were randomly assigned to the programme or usual care within 12 weeks of diagnosis. Biomedical data, such as HbA_{1c} levels, blood pressure and cholesterol levels, were collected from medical records, and lifestyles (including smoking status, physical activity and patients' perceptions of illness) were assessed through written questionnaires. Improvements were observed in some illness beliefs; however, overall, the programme did not result in sustained benefits in either biomedical or lifestyle outcomes.

Original article Khunti, K. *et al.* Effectiveness of a diabetes education and self management programme (DESMOND) for people with newly diagnosed type 2 diabetes mellitus: three year follow-up of a cluster randomised controlled trial in primary care. *BMJ* 344, e2333 (2012)

OBESITY

TGF β ligands: novel targets for obesity treatment?

New findings show that inhibition of activin receptor type IIB (ActRIIB)—a signalling receptor for TGF β ligands—can suppress the development of obesity in mice fed a high-fat diet (HFD). Treating HFD-fed mice with the novel antibody ActRIIB-Fc (a form of the ActRIIB extracellular domain fused to a human IgG Fc domain) resulted in significantly increased lean tissue mass, prevented HFD-induced alterations in serum hormones and lipids, and prevented lipid accumulation in liver and brown fat. Further analyses showed that protection from diet-induced obesity was due to increased energy expenditure associated with elevated expression of thermogenesis genes in white adipose tissue. The researchers identified several TGF β ligands, including GDF-8 and GDF-11, which mediated these effects of ActRIIB-Fc. Targeting these ligands could be a novel treatment strategy for obesity, they conclude.

Original article Koncarevic, A. *et al.* A novel therapeutic approach to treating obesity through modulation of TGF β signaling. *Endocrinology* doi:10.1210/en.2012-1016

BASIC RESEARCH

PBF regulates thyroid hormone secretion

PBF, a protein of previously unknown function encoded by the *PTTG1IP* proto-oncogene (which is overexpressed in thyroid and other endocrine cancers) has been identified as a novel regulator of thyroid hormone secretion. The team's data show that in COS-7 monkey kidney cells, PBF binds the thyroid hormone transporter MCT8 and increases its intracellular localization *in vitro*. Using PBF-transgenic mice, in which PBF overexpression is targeted specifically to the thyroid gland, they confirm that PBF and MCT8 interact and colocalize within the cytoplasm *in vivo*. In these PBF-transgenic mice, PBF overexpression also increases thyroid hormone secretion *in vivo*.

Original article Smith, V. E. *et al.* PTTG-binding factor (PBF) is a novel regulator of the thyroid hormone transporter MCT8. *Endocrinology* doi:10.1210/en.2011-2030