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IN BRIEF

OBESITY

Reduced weight-loss failure with duodenal switch

Roux-en-Y gastric bypass (RYGB) is a commonly used form of bariatric surgery. However, weight-loss failure rates of 20.4% and 34.9% have been reported following RYGB in patients with obesity (BMI >30 kg/m²) and super obesity (BMI >50 kg/m²), respectively. A multicentre database analysis of 77,406 patients undergoing RYGB and 1,545 patients having biliopancreatic diversion with duodenal switch (DS) surgery shows that patients who undergo DS have lower weight-loss failure and greater resolution of obesity-related comorbidities than patients undergoing RYGB. Approximately 20% of patients with super obesity experience weight-loss failure 1 year and 2 years following RYGB. By contrast, weight-loss failure is observed in only 9% and 6% of patients with super obesity 1 year and 2 years after DS surgery, respectively. However, rates of reoperation, postoperative infection and anastomotic leak are higher in patients who undergo DS than in those who undergo RYGB surgery.

Original article Nelson, D. W. *et al.* Analysis of obesity-related outcomes and bariatric failure rates with the duodenal switch vs gastric bypass for morbid obesity. *Arch. Surg.* **147**, 847–854 (2012)

THYROID GLAND

High free T₄ levels associated with dementia

In previous cross-sectional and epidemiological studies, an association between dementia and subclinical hyperthyroidism (suppressed TSH levels with thyroid hormone levels in the euthyroid range) has been noted. However, such an association has not been shown in elderly individuals and associations with levels of specific thyroid hormones have not been demonstrated. In a community-based trial, the investigators measured TSH and free T₄ levels in 3,401 men aged 70–89 years who did not have a history of thyroid disease or dementia, and who had normal cognitive function (Standardized Mini-Mental State Examination score >24) at baseline. The primary outcome measure was a diagnosis of dementia during the >5-year of follow up (median 5.9 years). Men who developed dementia had higher baseline free T₄ levels than those who did not develop the disease. However, no association was found between dementia and TSH levels.

Original article Yeap, B. B. *et al.* Higher free thyroxine levels predict increased incidence of dementia in older men: the Health in Men Study. *J. Clin. Endocrinol. Metab.* doi:10.1210/jc.2012-2108

DIABETES

Reversible mechanism of smoking-induced insulin resistance

Smoking is an independent risk factor for the development of type 2 diabetes mellitus. The molecular link between smoking and insulin resistance is unclear. However, a new study shows that both IRS-1^{Ser636} phosphorylation (associated with insulin resistance) in skeletal muscle and fasting blood triglyceride levels are higher in smokers than in nonsmokers, whereas insulin sensitivity is lower in smokers. Smoking cessation for 2 weeks increases insulin sensitivity and reduces IRS-1^{Ser636} phosphorylation, but triglyceride levels remain high. Nicotine treatment of cultured myotubes increases IRS-1^{Ser636} phosphorylation and this effect was inhibited by rapamycin. Therefore, smoking might induce insulin resistance via nicotine activation of mTOR.

Original article Bergman, B. C. *et al.* Novel and reversible mechanisms of smoking-induced insulin resistance in humans. *Diabetes* doi:10.2337/db12-0418