

Supportive care might improve outcomes of patients with IBS

Clinical trials of IBS treatments tend to show large placebo effects in control groups. Kaptchuk and colleagues' single-blind study investigated components of this placebo effect in patients with IBS. The 262 study participants (mean age 39 years, 199 women) were randomly allocated to one of three groups: a waiting list, placebo (sham acupuncture) treatment with a short (<5 min) business-like encounter with their physician, or placebo (sham acupuncture) treatment plus a warm, supportive and confident relationship with their physician.

After 3 and 6 weeks, statistically and clinically significant improvements were seen in placebo-treated patients compared with waiting-list patients. Placebo-treated patients with supportive patient-practitioner relationships had dramatic improvements compared with placebo-treated patients with limited patient-practitioner interaction; however, improvements in the limited-interaction group were statistically superior to those in the waiting-list group. Scores for global improvement, symptom severity and quality of life, as well as the percentage of patients who reported adequate symptom relief, improved most in the placebo-treated, augmented-interaction group ($P < 0.001$ for all trends).

The researchers note that the three groups address different, additive components of the placebo effect: the patient's response to observation and assessment, to administration of a therapeutic ritual, and to interaction with the practitioner, respectively. A supportive practitioner-patient relationship seemed to be the most potent component of the placebo effect.

Original article Kaptchuk TJ *et al.* (2008) Components of placebo effect: randomised controlled trial in patients with irritable bowel syndrome. *BMJ* 336: 999–1003

Adipocyte numbers are set during childhood and tightly regulated in adults

Enlargement of adipocytes is the main mechanism of weight gain in adults, but total fat is also influenced by adipocyte numbers—obese people, on average, have more adipocytes than nonobese people. Spalding and colleagues

investigated adipocyte turnover by measuring levels of ^{14}C (derived from nuclear bomb tests) in adipocyte genomic DNA, which reflect atmospheric ^{14}C concentrations when the cell underwent its last division.

Adipocyte numbers were calculated for 687 adults (age >20 years), and compared with previously reported values for children and adolescents. Adipocyte numbers increased during childhood and adolescence but remained constant during adulthood in both lean and obese individuals; however, adipocyte expansion started at age ~2.1 years in individuals with early-onset obesity, compared with age ~5.7 years in those who remained lean. Differences in adipocyte number between lean and obese individuals were, therefore, established during childhood.

Adipocyte generation occurred during adulthood: individuals who became adults before the first bomb tests in 1955 had raised ^{14}C levels in adipocyte genomic DNA, suggestive of post-1955 generation, whereas individuals born after bomb tests ceased in 1963 had decreased ^{14}C levels, suggestive of recent generation. Consequently, adipocyte turnover is tightly regulated to maintain constant cell numbers. The researchers calculated that the adipocyte turnover rate was ~10% per year across all BMI categories, and remained constant in adulthood regardless of age and energy balance—bariatric surgery decreased adipocyte size significantly, but their numbers remained unchanged.

Feedback mechanisms that control adipocyte turnover might offer novel targets for prevention as well as treatment of obesity.

Original article Spalding KL *et al.* (2008) Dynamics of fat cell turnover in humans. *Nature* 453: 783–787

Probiotics might restore neutrophil function in patients with compensated cirrhosis

Patients with liver disease have increased susceptibility to and mortality from infections, which is thought to be related to increased endotoxemia and immune-system defects. Stadlbauer and colleagues' previous work suggested a role for endotoxemia in the neutrophil dysfunctions observed in patients with complicated alcoholic cirrhosis. These authors,