In light of the observation that cabergoline effectively controlled cortisol secretion in over a third of this small group of patients with Cushing disease, the authors recommend further studies in a larger cohort of patients to confirm these results.

Original article Pivonello R *et al.* (2008) The medical treatment of Cushing's disease: effectiveness of chronic treatment with the dopamine agonist cabergoline in patients unsuccessfully treated by surgery. *J Clin Endocrinol Metab* [doi: 10.1210/jc.2008-1533]

Growth hormone therapy improves body composition, but not weight, in obese individuals

Growth-hormone (GH) secretion is reduced in obesity, but studies of GH therapy in obese individuals have produced conflicting results. A meta-analysis of studies on the effects of recombinant human GH (rhGH) in obese patients suggests that rhGH treatment converts adipose tissue to lean body mass, but without inducing overall weight loss.

Mekala and Tritos examined 24 placebo-controlled studies, which included 539 individuals; median treatment duration was 11.5 weeks. Compared with placebo, treatment with rhGH was associated with significantly decreased mean waist:hip ratio (–0.01), fat mass (–0.9 kg), percent body fat (–1%), visceral adipose area (–22.8 cm^2), and total and LDL cholesterol levels (–7 mg/dl and –9 mg/dl, respectively), and increased lean body mass (+1.8 kg). Overall body weight was not affected by rhGH treatment, although BMI decreased in participants who were below the median age (38 years). Treatment was associated with arthralgias, peripheral edema and paresthesias, and also with increased fasting levels of glucose and hyperinsulinemia, although these latter effects disappeared in the studies of long duration.

The authors note that the risks of supraphysiologic concentrations of GH are uncertain—the median dose in the studies analyzed was 31.1 U per week, and the observed benefits were quite small. Further studies of the effects of rhGH on glucose homeostasis and cardiovascular risk in obese individuals are required. The authors suggest that stimulation of endogenous GH with GH-releasing-hormone therapy might avoid some of the possible risks of rhGH treatment.

Original article Mekala KC and Tritos NA (2008) Effects of recombinant human growth hormone therapy in obesity in adults—a meta-analysis. *J Clin Endocrinol Metab* [doi:10.1210/jc.2008-1357]

Elevated IGF-I levels increase the risk of developing prostate cancer

Some studies have indicated that levels of circulating insulin-like growth factors (IGFs) and their binding proteins (IGFBPs) correlate with the risk of developing prostate cancer, whereas other studies have shown no such relationship. Roddam *et al.* have now found that high circulating levels of IGF-I are associated with a moderately raised risk of developing prostate cancer.

The authors searched PubMed, Web of Science and CancerLit databases for all studies that provided prospectively collected data on circulating concentrations of IGFs or IGFBPs and prostate cancer risk. The authors of these studies were invited to submit individual participant data to a central data set.

In the 3,299 patients with prostate cancer and 4,436 control individuals studied, the risk of prostate cancer increased as circulating concentrations of IGF-I increased (odds ratio for the highest versus lowest quintile 1.38; $P<0.001$ for trend). Elevated IGF-I concentrations were more strongly associated with low-grade disease than high-grade disease. Raised levels of IGFBP3 were also associated with increased prostate-cancer risk; however, this effect was secondary to the correlation between IGFBP3 and IGF-I levels. Neither IGF-II nor IGFBP-2 concentrations were associated with prostate-cancer risk.

The relationship between IGF-I and prostate-cancer risk could be related to the mitogenic and antiapoptotic effects of this growth factor. The authors propose that modification of circulating IGF-I levels through dietary and lifestyle changes might reduce the risk of prostate cancer.

Original article Roddam AW *et al.* (2008) Insulin-like growth factors, their binding proteins, and prostate cancer risk: analysis of individual patient data from 12 prospective studies. *Ann Intern Med* **149:** 461–471