improve the nutritional health status of British school children.

Marie Lofthouse

Original article Whincup PH *et al.* (2005) School dinners and markers of cardiovascular health and type 2 diabetes in 13–16 year olds: cross sectional study. *BMJ* **331:** 1060–1061

Androgen-receptor mutations in testicular cancer

Garolla *et al.* report a high prevalence of mutations of the androgen-receptor (AR) gene in young patients with testicular cancer in Italy. An association between AR gene mutations and testicular cancer has previously been proposed, because of the known increased risk of testicular cancer in patients with androgen insensitivity syndrome. Furthermore, epidemiologic studies have suggested that the number of CAG and GGC repeats in the AR gene might also be implicated in the development of testicular cancer.

The authors used polymerase chain reaction to analyze AR gene mutations and CAG and GGC repeat number in 123 testicular cancer patients with stage I tumors, and compared the results with those from age-matched controls.

AR gene mutations were found in three patients (2.4%), two of which were novel mutations. These patients all had SEMINOMA and none had a history of CRYPTORCHIDISM, a known risk factor. The authors found no AR mutations in 300 fertile control subjects, suggesting a specific association with testicular cancer.

No significant differences were seen in the CAG and GGC repeat lengths in testicular cancer patients compared with control subjects; however, when the investigators looked at the joint distribution of CAG and GGC repeats they observed a significant difference between those in testicular cancer patients and controls, suggesting that certain CAG and GGC haplotypes might be associated with an increased risk of testicular cancer.

Tamsin Osborne

Original article Garolla A *et al.* (2005) Molecular analysis of the androgen receptor gene in testicular cancer. *Endocr Relat Cancer* **12:** 645–655

Prophylactic thyroidectomy: effective against medullary thyroid carcinoma in children

Researchers at Duke University School of Medicine and Washington University school of Medicine have recently published the results of a study on prophylactic thyroidectomy in children genetically at risk of developing medullary thyroid carcinoma (MTC). The paper, published in the *New England Journal of Medicine*, reports a 100% success rate when this procedure was performed in children younger than 8 years of age.

Skinner and co-workers initiated a genetic screening programme to identify at-risk patients with mutations in the *RET* proto-oncogene, which has been identified as the cause of multiple endocrine neoplasia type 2A (MEN-2A), type 2B (MEN-2B), and familial MTC. Almost all patients with one of these conditions go on to develop MTC. Fifty patients under the age of 19, identified as having MEN-2A, underwent total thyroidectomy with resection of the surrounding lymph nodes. Patients were followed up 5–10 years after surgery with physical examination and provocative testing for plasma calcitonin levels. In 88% of patients, plasma calcitonin was undetectable, indicating no evidence of disease. Postoperative elevation of plasma calcitonin was recorded in 21% of children who were at least 8 years old at the time of surgery, whereas levels of this tumor marker remained undetectable in all patients who underwent surgery aged 7 years or younger ($P = 0.03$).

The authors concluded that total thyroidectomy is an effective treatment for children who are at risk of developing MTC, but that the timing of the procedure is crucial.

Alexandra King

Original article Skinner MA *et al.* (2005) Prophylactic thyroidectomy in multiple endocrine neoplasia type 2A. *N Engl J Med* **353:** 1105–1113

GLOSSARY

SEMINOMA
A malignant tumor of the testis thought to arise from primordial germ cells

CRYPTORCHIDISM
A congenital disorder where one or both of a newborn baby's testicles fail to descend into the scrotum