IN BRIEF

TESTICULAR CANCER

A genome-wide association study of testicular germ cell tumor has identified susceptibility loci on chromosomes 5, 6 and 12. Target single nucleotide polymorphisms were identified in an initial cohort of 730 cases and 1,435 controls, and were replicated in a further 571 cases and 1,806 controls. Together, the identified loci account for around 7–10% of the risk to siblings and offspring of men with these tumors.

Original article Rapley, E. A. *et al.* A genome-wide association study of testicular germ cell tumor. *Nat. Genet.* **41**, 807–811 (2009).

TESTICULAR CANCER

The first hard data supporting a role for *in utero* hormone exposure in the development of testicular cancer are now available. Serum collected during early pregnancy from the mothers of 73 cases was compared with that from 286 matched referents. High levels of androstenedione and total estradiol were associated with increased risk, whereas risk was lower in the offspring of mothers with high concentrations of dehydroepiandrosterone.

Original article Holl, K. *et al.* Endogenous steroid hormone levels in early pregnancy and risk of testicular cancer in the offspring: a nested case–referent study. *Int. J. Cancer* **124**, 2923–2928 (2009).

BLADDER CANCER

A US group has found evidence of an important gene–environment interaction affecting susceptibility to bladder cancer. Among study participants exposed to the highest levels of arsenic, the risk of developing the disease was significantly increased (odds ratio 2.8) in those who harbor the Thr241Met variant of the DNA double-strand break repair gene *XRCC3*. The analysis included data from 342 cases and 549 controls.

Original article Andrew, A. S. *et al.* DNA repair genotype interacts with arsenic exposure to increase bladder cancer risk. *Toxicol. Lett.* **187**, 10–14 (2009).

PROSTATE CANCER

The risk of developing a secondary malignancy is markedly decreased if proton therapy—rather than intensity modulated X-rays—is used to treat early-stage prostate cancer. Radiotherapy plans for both modalities were prepared for three patients. Risk modeling and simulations showed that the superior sparing of the bladder and rectum during proton therapy was associated with a 26% lower likelihood of secondary malignancy.

Original article Fontenot, J. D. *et al.* Risk of secondary malignant neoplasms from proton therapy and intensity-modulated x-ray therapy for early-stage prostate cancer. *Int. J. Radiat. Oncol. Biol. Phys.* **74**, 616–622 (2009).