nilutamide arm. The median time to treatment failure in those who added nilutamide to vaccine therapy was 13.9 months, which was greater than for those receiving nilutamide alone; however, those who began treatment with nilutamide, but had vaccine added to the regimen on PSA progression, had a median time to treatment failure of only 5.2 months.

The authors conclude that the potential synergy of combined prostate cancer vaccines with antiandrogens warrants further study.

Alexandra King

Original article Arlen PM *et al.* (2005) Antiandrogen, vaccine and combination therapy in patients with nonmetastatic hormone refractory prostate cancer. *J Urol* **174:** 539–546

NAT2 and *GSTM1* polymorphisms affect the risk of bladder cancer

A study recently published in *The Lancet* has revealed strong associations between two carcinogen-detoxifying genes—*NAT2* and *GSTM1*—and the risk of bladder cancer. The research by García-Closas and co-workers investigated polymorphisms in several *NAT* and *GST* genes in participants in the Spanish Bladder Cancer Study.

DNA samples were provided by patients ($n = 1{,}150$) diagnosed with carcinoma of the urinary bladder, and control individuals ($n = 1{,}149$) matched for age, sex, and geographical region who had been admitted to participating hospitals for unrelated conditions. All patients were white and were predominantly male.

The risk of bladder cancer was 40% higher in patients with *NAT2* slow-acetylator genotypes than in intermediate-acetylator or rapid-acetylator genotypes ($P = 0.0002$). Regression analysis also revealed a stronger association between smoking and risk of bladder cancer among *NAT2* slow-acetylator genotypes, than among either intermediate-acetylator or rapid-acetylator genotypes ($P = 0.008$). Individuals with the *GSTM1* null genotype also had a significantly increased risk of bladder cancer compared with those who had one or two copies of the gene ($P < 0.0001$), although the relative risk was not affected by smoking status. No significant interactions were found for the other genetic polymorphisms investigated. The authors also used the data from this study to update several previously published meta-analyses, which supported the convincing associations between bladder cancer and both *NAT2* slow-acetylation and *GSTM1* deletion.

Alexandra King

Original article García-Closas M *et al.* (2005) *NAT2* slow acetylation, *GSTM1* null genotype, and risk of bladder cancer: results from the Spanish Bladder Cancer Study and meta-analyses. *Lancet* **366:** 649–659

Excellent local control of small renal tumors achieved by CT-guided radiofrequency ablation

The emerging technique of percutaneous CT-guided RADIOFREQUENCY ABLATION (RFA) is a minimally invasive alternative to surgical tumor resection. Varkarakis and colleagues at the Johns Hopkins Medical Institutions have recently published their experience of RFA for the treatment of small renal tumors, with a mean follow-up of 27.5 months.

This retrospective analysis reviewed 46 patients with renal masses (56 tumors) who had undergone percutaneous CT-guided RFA between September 2000 and September 2003. Patients were followed up with CT or MRI at 3, 6, and 12 months, and then at 6–9-monthly intervals. Ablation was considered successful if follow-up imaging revealed no evidence of tumor growth or contrast enhancement.

Local tumor control was achieved in 94.6% of tumors. The success rate was significantly higher for tumors <3 cm in diameter than for those ≥3 cm (100% and 78.5%, respectively; $P < 0.05$). There were three treatment failures, at 24, 25, and 31 months, respectively, all of which occurred in patients with tumors ≥3 cm. Non-centralized tumors (those located >5 mm from the renal sinus) were associated with higher success rates than centralized masses ($P < 0.05$). The authors concluded that RFA can achieve outstanding local control of small renal masses, particularly in tumors <3 cm in diameter. However, they caution that a treatment failure as late as 31 months demonstrates the importance of long-term follow-up in future trials of this therapy.

Alexandra King

Original article Varkarakis IM *et al.* (2005) Percutaneous radio frequency ablation of renal masses: results at a 2-year mean followup. *J Urol* **174:** 456–460

GLOSSARY

RADIOFREQUENCY ABLATION (RFA)
Heat-induced tissue destruction using an electrical current that is passed through a needle electrode placed directly into the tissue