insufficiency and one-third had deficiency, with prevalence being greatest among participants of non-European descent. Men with metabolite concentrations below the median were at more than double the risk of developing aggressive prostate cancer compared with those who had median or higher levels.

In a genetic analysis, a positive association was seen between the vitamin D receptor gene polymorphism FokI and prostate cancer: among participants with the *ff* genotype, men with low levels of 25-hydroxyvitamin D_3 were at significantly raised risk, and those with high levels at significantly reduced risk, of developing aggressive and total prostate cancer.

The authors conclude that increased vitamin D levels could protect against aggressive prostate cancer, particularly in men with the FokI *ff* genotype.

Original article Li H *et al.* (2007) A prospective study of plasma vitamin D metabolites, vitamin D receptor polymorphisms, and prostate cancer. *PLoS Med* **4:** e103

Phase I trial of accurate new method of preoperatively identifying clear-cell RCC

Divgi *et al.* have carried out a prospective, open-label pilot study—the first of its kind—to determine whether iodine-124-labelled antibody chimeric G250 (^{124}I-cG250) and PET can accurately distinguish clear-cell renal cell carcinoma (RCC) from other renal masses. The ability to preoperatively identify tumor type in patients with renal masses would greatly assist patient management. G250 is a monoclonal antibody that binds specifically to clear-cell RCC and, when labeled with a radioactive isotope, can be visualized with PET.

A total of 26 patients with renal masses underwent resection by laparotomy. An intravenous infusion of ^{124}I-cG250 was administered 1 week before surgery, and all patients underwent abdominal ^{124}I-PET imaging in the 3 hours before surgery, the results of which were made known to the surgeon. Postoperatively, histopathology findings were compared with the ^{124}I-PET imaging results.

As a means of identifying clear-cell RCC, ^{124}I-cG250 PET had a sensitivity of 94% (95% CI 70–100%), a negative predictive value of 90% (55–100%), a specificity of 100% (66–100%), and a positive predictive accuracy of 100% (78–100%). One patient who received inactive antibody was excluded from the analysis. All nine cases of non-clear-cell RCC were correctly identified, as were 15 of the16 cases of clear-cell RCC.

On the basis of these findings, the authors propose that ^{124}I-cG250 PET imaging should be used as an alternative to renal biopsy to characterize incidentally discovered renal masses. A prospective trial is planned.

Original article Divgi CR *et al.* (2007) Preoperative characterisation of clear-cell renal carcinoma using iodine-124-labelled antibody chimeric G250 (^{124}I-cG250) and PET in patients with renal masses: a phase I trial. *Lancet Oncol* **8:** 304–310

PSA levels within 2 years of diagnosis do not predict lethal prostate cancer outcomes

Because of the excellent prognosis for localized prostate cancer in patients who remain untreated, early radical surgery might be unnecessary in most cases. Little is known about early indicators that might predict disease progression to a lethal or metastatic stage. Identification of such factors would help the decision of whether early treatment is appropriate. Fall and colleagues, therefore, evaluated the predictive accuracy of early changes in PSA level for determining prostate cancer outcomes.

Data from 267 Scandinavian patients who were diagnosed between 1989 and 1999 as having localized, well-differentiated or moderately well-differentiated prostate cancer and baseline PSA levels <50 ng/ml were included in the analysis. PSA follow-up data for the first 2 years after diagnosis were analyzed to establish associations between baseline PSA, PSA velocity and lethal outcomes (defined as death from prostate cancer or the development of distant metastases).

During a mean follow-up of 8.5 years, 34 (13%) of the patients died from prostate cancer and 18 (7%) developed metastatic disease. The results of several statistical models showed that, although prognostically relevant, baseline PSA levels and relative PSA velocity in the first 2 years following diagnosis were not able to predict accurately which patients would have a lethal prostate cancer outcome.

The authors conclude that although PSA measurement remains important when monitoring