cancer. There was no association between the frequency of short-term use of either aspirin or NSAIDs and risk of prostate cancer, even at the highest levels of use ≥ 60 pills per month).

The authors state that it would be premature to consider reduced risk of prostate cancer a benefit of the regular long-term use of aspirin or other NSAIDs as the study was not specifically designed to address this question. Furthermore, the American Cancer Society does not recommend use of aspirin or other NSAIDs to prevent cancer, because of the potential for serious side effects, such as gastrointestinal bleeding.

Christine Kyme

Original article Jacobs EJ *et al.* (2005) A large cohort study of aspirin and other nonsteroidal anti-inflammatory drugs and prostate cancer incidence. *J Natl Cancer Inst* **97**: 975–980

Overlap of chronic pelvic pain disorders and neural cross-talk

Chronic pelvic pain disorders such as irritable bowel syndrome and interstitial cystitis often overlap in terms of symptoms and prevalence, and frequently occur concurrently. Pezzone and colleagues investigated the involvement of neural cross-talk in this overlap in a newly developed rodent model, and hypothesized that acute afferent irritation of one pelvic organ could sensitize another by means of shared or convergent afferent pathways.

The effects of urinary bladder irritation (performed by means of intravesical infusions) on sensory thresholds to colorectal distension, and of acute colonic irritation (with trinitrobenzene sulfonic acid) on bladder contraction frequency, were tested in urethane-anesthetized female rats.

Electromyography measurements were taken. These demonstrated that irritation of the bladder triggered afferent colonic sensitization by means of an afferent reflex, as measured by sensitivity thresholds to graded colorectal distension. Following colonic irritation, the frequency of bladder contractions increased, suggesting that this organ had become irritated or sensitized.

The authors conclude that this is a viable model for use in further studies of pelvic inflammatory disorders and that their results provide strong evidence for bidirectional cross-sensitization of the colon and lower urinary tract. They suggest

that the overlap observed between different chronic pelvic pain disorders might be a result of this cross-sensitization, and highlight the need for further research into these pathways.

Katy Cherry

Original article Pezzone MA *et al.* (2005) A model of neural cross-talk and irritation in the pelvis: implications for the overlap of chronic pelvic pain disorders. *Gastroenterology* **128**: 1953–1964

Promoter methylation reduces expression of *TGF- β* receptor type 2 gene in prostate cancer

Transforming growth factor- β (TGF- β) protein is a potent inhibitor of epithelial cell proliferation, and its action is mediated through type 1 (TGF- β RI) and type 2 (TGF- β RII) receptor proteins. Resistance to TGF- β signaling caused by loss of *TGF- β RII* gene expression has been implicated in prostate cancer, and methylation of promoter sequences leads to downregulation of tumor suppressor genes in various human cancers.

Zhao *et al.* investigated promoter methylation and expression levels of TGF- β RII in 67 human prostate cancer samples, 48 benign hyperplasia samples and 4 prostate cancer cell lines. The methylation status of binding site at position –140 within the promoter element of the *TGF- β RII* gene was assessed using a methylation-specific polymerase chain reaction. Levels of *TGF- β RII* mRNA and protein expression were compared using a semi-quantitative reverse transcriptase polymerase chain reaction and immunohistochemistry, respectively.

The level of methylation at binding site –140 was higher in prostate cancer tissues than in benign hyperplasia samples. Levels of *TGF- β RII* mRNA and protein were, however, significantly reduced in prostate cancer tissue compared with benign hyperplasia samples. In three out of four prostate cancer cell lines analyzed, treatment with a demethylating agent restored expression levels of the *TGF- β RII* gene. If future studies confirm that methylation of the *TGF- β RII* gene promoter element is reversible and specific to prostate cancer, it could be a promising new target for prostate cancer therapy.

Claire Braybrook

Original article Zhao *et al.* (2005) CpG methylation at promoter site –140 inactivates *TGF β 2* receptor gene in prostate cancer. *Cancer* **104**: 44–52