

**Read all about it...** It can be awkward when a patient asks you about a report in their favourite tabloid detailing an amazing research breakthrough or a 'cutting-edge' new treatment / test and you don't know what they are talking about! So this section fills you in on the facts.

## Bladder cancer symptoms – simple test could indicate deadly disease

**The Express – 7 July 2017**

This story is likely to have caught the attention of many patients on surveillance programmes who dread their next cystoscopy. The article reports on a paper in *The British Journal of Cancer* from a research team based at the University Hospital of Lyon, France. The team, led by Dr Descotes, examined the urine of 348 patients with urothelial bladder cancer and compared it with 167 control patients. Specifically, they examined for the presence of telomerase reverse transcriptase (TERT). You may recall, the telomeres are buffers at the end of chromosomes, they are gradually lost with the ageing process. Telomerase is the enzyme which lengthens these telomeres and can thereby allow a senescent cell to avoid apoptosis and effectively, become immortal. Clearly, this is highly advantageous to cancer cells and it is therefore no surprise that 90% of cancers have excessive telomerase activity due to acquired mutation.

In the study, urine TERT-positivity was compared to findings from cystoscopy and

cytology for patients following their first transurethral resection of bladder tumour (TURBT). It was found that TERT-positive status following TURBT was associated with a 5.34-fold increased risk of recurrence. TERT-positivity also predicted recurrence in a small subset with a negative cystoscopy. Overall sensitivity though was 80.5% and specificity was 89.8%.

TERT-positivity has been demonstrated previously as a way to indicate residual carcinoma in situ (CIS) during surveillance, but the sensitivity / specificity of around 80% is reproduced across multiple studies and is comparable to other tests such as NMP-22. Whilst cystoscopy is invasive and associated with patient morbidity, TERT cannot replace the gold standard cystoscopy and lacks the low cost and sensitivity of cytology to detect high-grade lesions. Perhaps in the future, as costs reduce TERT may be used alongside other biomarkers for simplified screening of low-risk patients, but that would require considerable validation first.

## Ejaculating at least 21 times a month significantly reduces a man's risk of prostate cancer

**The MailOnline – 5 July 2017**

This old chestnut! This story concerns a new publication from Harvard University in *European Urology*. There have been many small studies over the years that have indicated that higher ejaculation frequency is associated with a lower prostate cancer risk and many others that have failed to reproduce those results. The most compelling evidence for this association has always been the data from Harvard's Health Professionals Follow-Up Study (HPFS). This new publication is an update of the HPFS data with an additional decade of follow-up.

The HPFS represents a cohort of 51,529 male health professionals, of which 31,925 were examined for this publication. From these men, 3839 have been diagnosed with prostate cancer after the first four years of the study. Number of ejaculations per month were assessed via three anonymous, self-reporting questionnaires. The final analysis

of these men is impressive. A huge number of other variables were examined alongside ejaculation frequency, including: body mass index, height, diabetes, tomato intake, alcohol intake, smoking, vitamin intake, vasectomy – to name just a few. The complexity of this analysis, large patient number and 18 years of follow-up makes the findings hard to criticise. The most significant finding is a modest decrease in risk of prostate cancer diagnosis for men who ejaculated 21 or more times per month when aged 20-29 years, as compared to those who ejaculated four to seven times. This model indicates that increased risk of death in those with the lower ejaculation frequency is increased by 3.8% by age 80. The reduction in advanced prostate cancer risk is 2.2%. It is a very slight decrease, but this represents the most compelling evidence yet that ejaculation may be protective against prostate cancer.

## Man's penis doubles in length after testosterone injections

**The Metro – 19 June 2017**

Finally, a small story to be aware of, just in case it gives any worried patients silly ideas. A few news outlets ran with a relatively light-hearted story following on from a case report in the *BMJ* concerning a 34-year-old man in Karachi with hypogonadism. Following testosterone replacement therapy, his stretched penile length increased dramatically from 1.9 inches to 3.7 inches.

What is unusual about this case is the age of the patient. It has long been established that testosterone treatment is useful in children and adolescents with micropallus, but this should not be the case in an adult. It is possible that this case was more than simple hypogonadism. There is some evidence of human chorionic gonadotropin (hCG) supplementation being an effective treatment for micropenis in patients up to 24 years of age, but it doesn't change the fact that most men in the outpatient clinic concerned about penis size simply need a sympathetic ear and reassurance.

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