

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.

Donald Trump's hair growth drug IS safe for men to prevent prostate cancer, study says after fears it increased the risk

The Daily Mail – 23 January 2019

This story concerns the 5alpha-reductase inhibitor drug, finasteride. Clearly, this is a commonly used drug in urology clinics everywhere, as a mainstay of benign prostatic hyperplasia (BPH) treatment. This may now change though, as this headline is probably enough to discourage most men from taking it. I shouldn't imagine many men will be keen to look like they have a pile of yellow candy-floss balanced atop their heads.

This story concerns a piece of correspondence published in January's *New England Journal of Medicine*. The article, from one of the researchers behind the Prostate Cancer Prevention Trial, provides an update, with new data, on previously published findings. The study had previously shown, across seven years of follow-up for 19,000 men, that daily finasteride was associated with a 24.8% lower risk of prostate cancer diagnosis. However, paradoxically, the risk of a high-grade disease (Gleason 7 or higher) diagnosis was 25.5% higher in the

men randomised to daily finasteride.

Similarly, the REDUCE trial (which examined the use of dutasteride as chemoprevention for prostate cancer) suggested similar results. The risk of a prostate cancer diagnosis reduced by 22% in those treated, but after a few years of treatment, there was a concerning trend towards Gleason 8's, 9's and 10's being found on biopsy.

The correspondence in *NEJM* details the analysis of 2014 data from the USA's National Death Index registry. This data, which now covers 18.4 years of follow-up, indicates that there is no statistically significant difference in risk of death from prostate cancer with finasteride. This finding is perhaps not adequately reflected in the headline of the news story. Nevertheless, I suppose there is some reassurance here that 5alpha-reductase inhibitors can safely be continued as a treatment for BPH, as long as the threat of Trump hair doesn't put the patient off.

Bottoms Up! Having an injection of booze in the bum could help millions of men get a better night's sleep, research finds

The Sun – 27 December 2018

It was slightly surprising to see this in the news, not least because of the rather coarse headline. The story comes off the back of a recent publication from Venezuela. This research, at the time of writing, is only available as an abstract ahead of its publication in *Spanish Urological Records (Actas Urol Esp)*. Notably, nowhere in the abstract or press release is it stated how many men were treated. What is detailed is that this was a trial of transrectal injection of the prostate with 95% ethanol to induce cell lysis and reduction in prostate volume with the intention of managing lower urinary tract symptoms (LUTS).

The abstract details that over a follow-up time of 12 months, the approximate reduction of prostate volume was 35%, the improvement in International Prostate Symptom Score (IPSS) was 48% and the maximum urinary flow speed was improved by 85%. These are all statistically significant results. The complication rate is not quoted.

This is not a new treatment though;

four-year follow-up data from a trial was published in *The International Journal of Urology* in 2009. A trial was published in *The Journal of Urology* in 1999. In fact, the concept of intra-prostatic injection for BPH has been researched for almost 100 years at this point and ethanol is probably the most researched of any agent. The evidence to date suggests that this technique, in experienced hands, is probably relatively safe and moderately effective – so why hasn't it caught on? If the last few years have shown anything with regards to the proliferation of minimally invasive prostate procedures, it is that perception is a major driving factor in uptake of the procedure. Simply put, "booze in the bum" does not sound as appealing as "super-selective embolisation" or "convective radiofrequency thermal therapy". Perhaps though, this a treatment modality that may, with evidence from a larger trial, prove to be suitable for developing countries where treatment cost is a more critical factor.

Light-up 'belt' that shines on the bladder could stop embarrassing leaks

The Daily Mail – 21 January 2019

This is an interesting story and some interesting research into detrusor overactivity, but I am somewhat surprised at its publication in *The Daily Mail*. The story stems from a publication in *Nature* in January 2019, entitled 'A wireless closed-loop system for optogenetic peripheral neuromodulation'. The research is being carried out at the University of Illinois and revolves around 'optogenetics'. Briefly, the research team is using a viral gene therapy vector to cause sensory neurons in rat bladders to express 'archaerhodopsin' – a light sensitive protein. When activated by light, the 'opsin' inhibits nerve conduction.

The plan is to implant a 'band' around the bladder that senses filling and emptying and then excessive bladder emptying / voiding triggers an LED belt, worn outside of the body, to shine light into the bladder, thereby activating the opsin and stabilising the neurons and detrusors. So far, this has been tested in rats.

This is all really quite theoretical at the moment, in so far as using such a system in a human goes. Implanting a device all around the bladder may potentially do a lot more harm than good and there is currently no way to deliver sufficient light to something as big as a human bladder from an external source.

It is fascinating science, but I am not optimistic that this will ever reach the point of being useful to a patient.

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