

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.

'Benign' cells near tumour may mutate

The Times – 3 March 2015

This article concerns the publication of a research project in Nature Genetics journal. The research was designed by Professor Ros Eeles of The Royal Marsden Hospital, London; Professor David Neal of Addenbrooke's Hospital, Cambridge and Professor Colin Cooper of the University of East Anglia, Norwich and is an analysis of genetic phylogeny of multifocal prostate cancer. If the term 'phylogeny' is all Greek to you, it means 'history of evolution'.

The extensive team assembled for this research looked specifically at multi-focal prostate cancer. Previous genetic analyses have suggested that each tumour arises independently, but the question still remained as to whether there may be an unidentified common underlying mutation giving rise to all of the tumours.

The team carried out DNA sequencing on areas of cancer and morphologically

normal prostate tissue from three men with multi-focal disease. A fluorescence in situ hybridisation (FISH) was used to probe the DNA and identify substitution mutations. Substitutions are the error where a nucleotide is incorrectly copied as another, i.e. CAT gets copied as GAT.

Surprisingly, almost 50% of 'normal' tissue near the tumours contained substitution errors. The team analysed and tracked the specific errors in the ERG oncogene between the normal and cancerous tissue. They used this data to piece together an evolutionary tree for the tumours in the same way that you could probably put together a rough family tree at a family gathering by looking for shared facial characteristics and judging how old people look.

The team showed that in the cases analysed, there are fields of benign cells

that contain high numbers of mutations surrounding tumours. Specific mutations seen in the benign cells are also seen in the tumours, but the tumours are not all identical with respect to other mutations. It is not clear if mutations in the 'benign' tissue are pathological or just somatic mosaicism, but this appears to be the bedrock on which multi-focal cancer can develop. This has implications for treatments such as high intensity focused ultrasound (HIFU) which would not focus on morphologically benign tissues and it also reveals how difficult it may be in future to target specific therapies in multi-focal cancer. Perhaps one day in the not too distant future you may find yourself explaining to a patient that his TRUS biopsy was negative, but you aren't happy about the number of substitution errors.

Injections of tummy fat halt embarrassing leaks

Daily Mail – 19 January 2015

Using peri-urethral injections to improve urethral coaptation as a treatment for stress urinary incontinence is hardly new, having been around since the 1930s, when it was first carried out with paraffin. Its place in the treatment of stress urinary incontinence (SUI) remains contentious though, in part due to the challenge of finding a material to inject that provides lasting results with low risk of reaction or complication. Autologous fat injection has been looked into previously, but

abandoned due to safety concerns.

Whilst unreferenced, this article seems to have 'borrowed' from a review article in the February edition of Therapeutic Advances in Urology. The Daily Mail mentions a phase II trial in Spain, treating men with SUI secondary to radical prostatectomy with peri-urethral injections of adipose derived stem cells (ADSC), harvested from liposuction. There are no published results from this trial as yet, but the trial is now closed. The Mail

does mention results from a similar trial in Japan in 2012, that is also referenced heavily in the journal article. That trial showed a 59.8% reduction in leakage volume following ADSC injection. That result is pretty much in-line with the outcomes from modern 'inert' bulking agents. Stem cell therapy is certainly an exciting new technology, but these early results suggest that expensive stem cell therapy is still some way off being a 'game changer' in stress UI.

Average penis size revealed in study results

Guardian – 4 March 2015

OK, if a chap wants to talk about this at his outpatient appointment, it's probably just because he wants to brag, but I suspect this story was of interest to many patients nonetheless. The Guardian reports on a meta-analysis of studies into penile length and girth that amasses a grand total of 15,521 participants. Interestingly, the data does not seem to back up the common myths about foot size, digit ratios or ethnicities. The

authors do admit though that there may be a selection bias, in that the proudest men are the most likely to volunteer to have their penis measured. Nevertheless, this meta-analysis, published under the title 'Am I Normal?', does appear to provide a definitive answer to that age-old question that spurred the invention of the tape measure. Mean flaccid length (unstretched) is 3.6 inches (9.16cm) and mean erect length is 5.16 inches (13.12cm).



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