

Press release: European Association of Urology congress

Prostate cancer: how can we decide when to treat?

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You have been diagnosed with prostate cancer and your doctor gives you the option of not being treated, but of remaining under observation: is there any objective way you can decide to be treated or not treated? What should you do? Now using first results from analysis of the world's biggest *Active Surveillance* prostate cancer database, the GAP3 consortium* has begun to identify which patients are at risk of the disease developing and which patients can continue to safely delay treatment. This work is presented at the virtual European Association of Urology congress.

As lead researcher, Dr Mieke Van Hemelrijck (King's College London) says: *"Current methods of deciding whether or not to recommend treatment are not reliable. Our analysis shows that we should be able to produce a single global methodology, which will give accurate estimates on how aggressive these cancers are. These will feed directly into the treatment decision, and give men the reassurance they need to decide on treatment."*

Prostate cancer is one of the leading causes of death in men, but many men who discover they have prostate cancer are not in any immediate danger: they have Low Risk Prostate Cancer. Over the past 10 years, an increasing number of these men have been given the option of going on active surveillance, rather than being immediately treated. Active surveillance means that men continue to be monitored and tested (via PSA levels, biopsy, and other tests), with treatment only starting when the cancer shows signs of developing. The number of men on active surveillance varies from country to country, with up to 80% of men delaying treatment in some countries. However, there are no generally accepted ways of understanding who is at risk, and as many as 38% of men who start active surveillance drop out within 5 years.

Van Hemelrijck said: *"Prostate cancer treatment can have significant side-effects such as erectile dysfunction and incontinence, so often avoiding intrusive surgery or radiotherapy can benefit the patient. Nevertheless, being told you have cancer puts great psychological pressure on men to agree to treatment, so understanding just how aggressive the cancer is before deciding on treatment is essential. At the moment we just don't have that reassurance."*

Although active surveillance is considered a real step forward in management of low risk prostate cancer, there is surprisingly little agreement on which men will benefit. Doctors consider a range of factors, such as age, PSA score, biopsy details, technical details of the cancer, and so on. But the decision on whether or not to start treatment is still often

subjective. Erasmus MC , department of Urology was tasked by Movember to coordinate the development of a global database on Active Surveillance (the GAP3 consortium). Dr Van Hemelrijck worked with a team of researchers from the GAP3 Consortium to develop the world's most accurate active surveillance nomogram.

A *nomogram* is a treatment calculator, similar to an App: you feed in the details and it gives you advice on whether or not to treat. Local nomograms exist, but a global version is needed to be generally applicable. Working with data from the 14,380 patients on the Movember database (the world's largest), they were able to input data such as age, size and condition of the tumour, PSA, biopsy details, time on active surveillance, genetic factors, etc.

“Not surprisingly, we have found that even accounting for these factors there was still differences in outcomes between participating centres. But this work has shown that it will be possible to produce a nomogram which can guide treatment. Just as importantly, the work shows which additional factors need to be included in the nomogram in future to enable us to eliminate this variation and produce accurate estimates of tumour aggressiveness.”

Commenting, EAU Adjunct Secretary General Professor Hendrik Van Poppel (University of Leuven, Belgium) said;

“This work shows that it should be possible to develop a global nomogram – in other words, a system which allows us to predict whether active surveillance will be suitable for individual low and intermediate risk prostate cancer patients. This would be an important step forward in terms of the reassurance we can offer patients, and in choosing treatment pathways. The urology community would welcome this, and will be happy to cooperate in taking this project forward.”

This is an independent comment; Professor Van Poppel was not involved in this work.

For more information on the GAP3 projects see <https://gap3.movemberprojects.com/>

The 35th European Association of Urology conference takes place online from 17-19 July, 2020. This replaces the physical conference which was scheduled to take place in Amsterdam. The EAU conference is the largest and most important urology congress in Europe, with up to 14,000 attendees. Conference website <https://eaucongress.uroweb.org/>