

[Study shows prostate cancer screening under age of 55 may be of limited value](#)

Barcelona, 14 November 2015 - Mass prostate cancer (PSA) screening before the age of 55 may not have any benefit over screening starting after the age of 55, according to a new 20 year analysis of 6822 patients, presented at the 7th European Multidisciplinary Meeting on Urological Cancers (EMUC15) in Barcelona.

Using PSA (Prostate Specific Antigen) to screen for prostate cancer has been controversial. PSA screening can reduce prostate cancer mortality by around 1 death prevented for every 98 men screened on a lifetime basis, but that still means for every prostate cancer death prevented by screening, 3 or 4 die from prostate cancer. In addition PSA screening can lead to substantial overdiagnosis, with approximately 5 unnecessary prostate cancer diagnosis per 100 men screened. These patients then tend to be treated unnecessarily, which can often lead to significant side-effects, such as incontinence and/or impotence.

So far, the balance of harms and benefits has been a grey area, with most major urology guidelines recommending that screening should not be actively offered (as happens with mammography, for example), but instead each individual man should have the opportunity to decide whether he will have screening or not. The new analysis indicates that even if patients are given a free choice on when to screen, screening does not have much additional benefit if started before the age of 55.

The new information comes from a group of Dutch researchers from Erasmus University, Rotterdam. The group looked at outcomes from 6822 men in the Rotterdam arm of the European Randomized study of Screening for Prostate Cancer (ERSPC). Screening began in the 1993-1997 period with participants aged between 55 and 59, who were then followed up until they reached the age of 75. At the start of the study, initial screening indicated that 189 men had prostate cancer. At the end of the study, 40 of the 189 had died of prostate cancer/developed metastases (19 men), or were showing biochemical signs of prostate cancer (21 men): taken together these 40 men represent the group which may have benefited from early screening.

According to first author, Dr Leonard Bokhorst:

“This is a new way of looking at the survival data associated with prostate cancer screening, We believe that this makes it clearer that most of the benefits of screening only appear after the age of 55. From population data, overall we expect around 205 men out of the 6822 to die of prostate cancer. At the start of the study (first screening round) only 19-40 men were detected who died or are still at risk of death from prostate cancer, meaning that at most 10-20% of all expected prostate cancer deaths may benefit from earlier screening. The remaining 80-90% do not benefit from earlier screening as they either already benefited from screening starting at age 55 (as conducted in the study) or will not benefit at all. For these people, simply starting screening at an earlier age would not make a significant difference. In fact, screening will most likely increase the possible harms, as it pulls forward the risk of side effects such as stress, incontinence and impotence by several years.

There are no absolute ‘yes’ or ‘no’ numbers one can put on when to screen, it depends on how highly you value several factors, and many of these factors will vary from individual to individual. But this work leads us to believe that simply recommending screening before the age of 55 would not be the

optimal way to improve the harms/benefit ratio of screening. For the vast majority of men the only way to improve screening is to change the screening protocol itself, for example by changing the interval of PSA testing, or if possible by moving to a different method of detecting prostate cancer.”

Commenting, European Association of Urology Adjunct Secretary General, Professor Hein Van Poppel (Leuven) said:

“This is significant work, but it does not mean that earlier screening with PSA must be condemned in all cases. In men at risk, for example a man whose father or first degree relative died of metastatic prostate cancer, PSA testing earlier than at 55 years can still be considered. Starting PSA screening in those men at age 40, with repeats at 45 and 50 will help detect those extremely aggressive cancers that tend to occur in men in their early fifties with remarkably low serum PSA, but with high risk poorly differentiated tumors that hardly express PSA. Change in PSA levels between 40 and 50 will raise suspicion of these deadly prostate cancers.”

Ends

Notes for Editors

Please mention the *European Multidisciplinary Meeting on Urological Cancers* in any story from this press release.

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The European Multidisciplinary Meeting on Urological Cancers takes place in Barcelona from 12-15 November 2015, <http://emuc15.uroweb.org/>. This press release is issued by the European Association of Urology on behalf of the EMUC Congress.

The European Randomized study of Screening for Prostate Cancer (ERSPC) is the world’s largest randomized study on screening for prostate cancer, <http://www.erspc.org/>

Abstract

Title: Should we start screening men for prostate cancer before the age of 55?

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The Introduction & Objectives The ideal starting age for prostate cancer screening is not well established. To determine the potential benefit of starting screening before the age of 55.

Material & Methods Men in the screening arm of the European Randomized study of Screening for Prostate Cancer (ERSPC) Rotterdam aged 55-59 at randomization were included in this analysis. Men were offered PSA testing, with a subsequent biopsy if PSA was elevated. We considered men diagnosed with prostate cancer in the first screening round (1993-1999) who subsequently had biochemical recurrence (BCR) after treatment, developed metastases, or died as a result of the disease, to have been diagnosed to late, and thus to have had potential benefit from detection at an earlier age. Men not diagnosed at the first screening round or diagnosed but treated and cured (no BCR for at least 10 years after treatment) were considered to not benefit from earlier detection. The absolute percentage of men that would potentially benefit was compared to the estimated absolute lifetime mortality in this group in absence of screening. Follow-up for this analysis ended at the end of 2012.

Results A total of 6822 men aged 55-59 were randomized to the screening arm of the ERSPC Rotterdam. In the first screening round prostate cancer was diagnosed in 189 men, including 69 men with Gleason ≥ 7 or \geq cT2c. At the end of follow-up 19 men (0.28% of all

men randomized) developed metastases or died of prostate cancer, 21 men (0.31%) developed BCR but were still alive, 29 men died of other causes, and 120 men were still alive and did not develop BCR after a minimum of 10 years of follow-up after treatment. The lifetime absolute mortality in this group is estimated at 3%, meaning 10- 20% (0.28 to 0.59 (0.28+0.31)/3) could potentially benefit from screening before the age of 55 (table 1). Men diagnosed before the age of 55 were excluded from this study although the estimated proportion at the time of the study (1993-1999) was negligibly small.

Table 1.

	n	% of all men randomized
Men randomized to screening arm aged 55-59	6822	
Prostate cancer in first screening round	189	2.8%
Gleason 6 and <=cT2b	120	1.8%
Gleason 7 or >=cT2c	69	1.0%
Follow-up (n=189)		
Prostate cancer death / metastases*	19	0.28%
Gleason 6 and <=cT2b	3	
Gleason 7 or >=cT2c	16	
Biochemical recurrence, still alive*	21	0.31%
Gleason 6 and <=cT2b	10	
Gleason 7 or >=cT2c	11	
Other cause death**	29	0.43%
No Biochemical recurrence, still alive**	120	1.8%
Estimated absolute lifetime prostate cancer mortality in absence of screening***	205	3.0%

*these men would potentially benefit from screening at an earlier age

**these men would not benefit from screening at an earlier age.

***Based on Dutch population data.

Conclusions The majority (80-90%) of men that die of prostate cancer would not benefit from starting screening before the age of 55. It could be questioned if the small potential benefit of starting screening before the age of 55 would weigh against advancing the harms of screening for all men by 5-10 years