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Routine screening by prostate specific antigen for prostate cancer seems unreasonable

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Prostate specific antigen (PSA) screening for prostate cancer in men has been widely used since early '90s in an effort to decrease the number of late diagnoses. Although the introduction of PSA screening lead to a dramatic increase in the number of prostate cancers diagnosed, the impact on cancer-related mortality and overall mortality were inconclusive. For example, two studies published simultaneously in 2009 in the New England Journal of Medicine (the PLCO and the ERSPC studies, NEJM 2009;360:1310-28) found no benefit of PSA screening on total mortality (PLCO study), but a 16% reduction of cancer-related mortality at 10 years (the ERSPC study).

In a recent number of the British Medical Journal, Djulbegovic et al. published a meta-analysis of 6 trials (including the PLCO and ERSPC studies) that evaluated the effect of PSA screening on the overall and prostate cancer-related mortality. The meta-analysis included data from almost 390.000 men. Twice as many early, stage I prostate cancers were detected by screening compared with non-screening (relative risk 1.95, 95% CI 1.22 to 3.13; P=0.005), but this increase in the number of diagnosed cases did not translate into a reduction of the overall mortality (relative risk 0.99, 95% CI 0.97 to 1.01; P=0.44), nor in a reduction in prostate cancer-related mortality (relative risk 0.88, 95% 0.71 to 1.09; P=0.25). Detection of more advanced cancers (stage >II) was not influenced by screening. The trials included in the meta-analysis did not have sufficient data regarding the potential adverse effects of screening (for example, the impact of the over-detection and over-treatment) or the impact of screening on the patients' quality of life.

Both the authors and an editorialist commenting on this article concluded that PSA screening should not be performed indiscriminately in the general men population aged over 60 years. Patients at higher risk of aggressive prostate cancer (i.e. family history of prostate cancer, high baseline PSA level [>2 ng/ml]) might benefit from close monitoring and repeated PSA testing, but this question needs further studies. ❑

Comment on a paper:

Djulbegovic M, Beyth RB, Neuberger MM et al – Screening for prostate cancer: systematic review and meta-analysis of randomised controlled trials. *BMJ* 2010; 341:c4543

Andriole GL – PSA testing should be tailored to individual risk. *BMJ* 2010; 341:c4538