

EDITORIAL

Early detection of prostate cancer: Is screening in general practice justifiable?

General practitioners (GPs) play an important role in both screening for and detecting new cancer cases. The various dilemmas that the primary care provider is faced with in these situations have been the subject of previous editorials in this journal [1,2].

Prostate cancer is one of the most common cancer causes among men [3] and methods to detect it in early stages to improve overall and cancer-specific mortality have been sought [4]. Several international guidelines have been published to address the issue of screening [5] and almost all recommend against routine screening for prostate cancer. Despite this the use of prostate-specific antigen (PSA) for prostate cancer screening has increased dramatically, both in the USA [6] and in Europe [7]. Screening with PSA does not distinguish between small indolent tumours and aggressive cancer, and there is a considerable risk of over-diagnosis and over-treatment [8].

The effects of screening on mortality, both overall and cancer specific, have been disputed and results of two of the largest studies have been contradictory. The American Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO) on prostate cancer mortality failed to show benefit with screening [9]. However, the European Randomized Study of Screening for Prostate Cancer (ERSPC) found a reduced rate of death from prostate cancer by 20%, but screening was associated with a high risk of over-diagnosis [10]. The results of a systematic review and meta-analysis of randomized controlled trials involving 387 286 participants concluded that there was no evidence supporting the routine use of PSA, with or without digital rectal examination for screening for prostate cancer [11]. Furthermore, the authors concluded that it is unlikely that future large trials in similar populations of participants with digital rectal examination and testing for PSA in a screening setting will yield divergent results. Therefore, the results of the newly published randomized prostate cancer screening trial with a 20-year follow-up had been awaited [12]. In that study no benefit on mortality from prostate cancer was found in the screening group.

So GPs are faced with a difficult dilemma. The prevalence of prostate cancer is high and the need for early diagnosis is obvious, but the evidence for screening with the tools we have today is slim, to say the least. With almost all of the clinical guidelines recommending not to screen and yet the use of PSA measurement for screening increasing, GPs are evidently not following the guidelines and perhaps do not agree with these recommendations. The question is: Should we screen all men, none, or only some? Today, most GPs agree not to screen all, and many would agree on screening only those at high risk, such as those with a strong family history and higher baseline PSA values. However, the main controversies are regarding the overwhelming majority of men not belonging to a high-risk group. How should GPs deal with the question of screening for prostate cancer among those men? The importance of informed participation in cancer screening [2] and the individualization of the screening approach after informing the patient about the pros and cons of screening have been mentioned as a way to deal with this. This task, i.e. to give information concerning the pros and cons of screening to individuals whom GPs meet in their office, is an enormous assignment. First, it is easier said than done for the primary care provider to be up to date in every angle of discussions on each and every aspect of cancer screening programs. Second, it is very difficult for the men seeking advice on screening for prostate cancer to understand the difference between detecting indolent and aggressive cancer, and the problems with over-diagnosis, over-treatment, and to recognize the fact that to prevent one death from prostate cancer you have to screen 1410 men and treat 48. Finally, the time that GPs have is limited and although the issue of patient information and education is immensely important, we have to ask ourselves if we can afford it on an issue that is scientifically so weak that almost all international guidelines do not recommend screening.

With the newest results on prostate cancer screening [12] we have to conclude that today we

neither have a sound scientific base nor the necessary tools to screen for prostate cancer, and thus screening in general practice is unfortunately not justifiable.

Emil L. Sigurdsson
Associate Professor
Department of Family Medicine
University of Iceland
E-mail: emilsig@hi.is

References

- [1] Vedsted P, Olesen F. Early diagnosis of cancer: The role of general practice. *Scand J Prim Health Care* 2009;27:193–4.
- [2] Getz L, Brodersen J. Informed participation in cancer screening: The facts are changing, and GPs are going to feel it. *Scand J Prim Health Care* 2010;28:1–3.
- [3] Parkin DM, Bray FI, Devesa SS. Cancer burden in the year 2000: The global picture. *Eur J Cancer* 2001;37(Suppl 8): S4–66.
- [4] Lin K, Lipsitz R, Miller T, Janakiraman S. Benefits and harms of prostate-specific antigen screening for prostate cancer: An evidence update for the US Preventive Services Task Force. *Ann Intern Med* 2008;149:192–9.
- [5] Stark JR, Mucci L, Rothman KJ, Adami HO. Screening for prostate cancer remains controversial. *BMJ* 2009;339:b3601.
- [6] Farwell WR, Linder JA, Jha AK. Trends in prostate-specific antigen testing from 1995 through 2004. *Arch Intern Med* 2007;167:2497–502.
- [7] Kvåle R, Auvinen A, Adami HO, et al. Interpreting trends in prostate cancer incidence and mortality in the five Nordic countries. *J Natl Cancer Inst* 2007;99:1881–7.
- [8] Draisma G, Etzioni R, Tsodikov A, et al. Lead time and over-diagnosis in prostate-specific antigen screening: Importance of methods and context. *J Natl Cancer Inst* 2009;101:374–83.
- [9] Andriole GL, Grubb RL, Buys SS, Chia D, Church TR, Fouad MN. Mortality results from a randomized prostate-cancer screening trial. *N Engl J Med* 2009;360:1310–19.
- [10] Schroder F, Hugosson J, Roobol M, Tammela T, Ciatto S, Nelen V, et al. Screening and prostate-cancer mortality in a randomized European study. *N Engl J Med* 2009;360: 1320–8.
- [11] Djulbegovic M, Beyth RJ, Neuberger MM et al. Screening for prostate cancer: Systematic review and meta-analysis of randomised controlled trials. *BMJ* 2010;341:c4543.
- [12] Sandblom G, Varenhorst E, Rosell J, Löfman O, Carlsson P. Randomised prostate cancer screening trial: 20 year follow-up. *BMJ* 2011;342:d1539.