

available at www.sciencedirect.com
journal homepage: www.europeanurology.com



Platinum Priority – Editorial

Referring to the article published on pp. 1079–1092 of this issue

Prostate Cancer Epidemic in Sight?

Fritz H. Schröder*, Monique J. Roobol

Department of Urology, Erasmus University Medical Center, Rotterdam, The Netherlands

Every year, usually in the January or February issue of *CA: A Cancer Journal for Clinicians*, their article on global cancer statistics. For years, this paper has reached record numbers of citations, amounting to 6854 in 2008 and already 3137 for the 2010 update [1]. The editorial board of *European Urology* has now succeeded in commissioning a paper addressing international prostate cancer statistics, written as a collaboration between the American Cancer Society and the International Agency for Research on Cancer (IARC) [2]. It was a pleasure to review this paper, which is a great source of information on incidence and mortality rates and changes over time in geographic areas that cover about 30% of the total population of the world. The paper is based on IARC's Globocan 2008 as well as World Health Organization statistics and is easy to read, with splendid illustrations.

For many of us, the present publication [2] will be an eye-opener because it quantifies many of our thoughts on prostate cancer, a disease central to urology. In the introduction, referring to Globocan 2008 [3], we read that 899 000 new cases and 258 000 new deaths occurred worldwide in 2008 and that worldwide prostate cancer incidence and mortality are estimated to grow to 1.7 million new cases and 499 000 new deaths by the year 2030. Our profession should take preparations to provide manpower and facilities for such an epidemic. In terms of geographic variation, the authors show that 72% of all cases and 53% of all deaths occur in developed countries, with <20% of the world population. Prostate cancer mortality rates decreased in 27 of the 53 countries included. The decreasing trends are mainly in the developed countries. The discussion section takes careful note of the factors that may influence these geographic differences in incidence and mortality. These differences are likely to result from a mixture of underlying prevalence and regional differences in changes of diagnostic procedures including prostate-specific antigen (PSA)-driven testing.

The limitations of the study are carefully pointed out [2]. These relate mainly to the regional differences in availability of data. As mentioned, the registry data included cover about 30% of the world population. The data collection is restricted to countries with data availability as of 1985. This covers the effects of all important diagnostic and treatment developments during that period but may miss earlier, less biased evidence of underlying risk factors such as race and lifestyle. Evidence acquisition is based on incidence and mortality rates per region for the time periods of 2000–2004 and 2000–2006, respectively. The incidence and mortality numbers and rates in Table 1 of the paper are derived from this information. Furthermore, the authors have used the available data for studying the change over time (average annual percent change) per geographic region, using the joint-point analysis. The data are graphically illustrated for selected regions.

Most observations on incidence and mortality and changes over time are in line with the levels of health care resources available in the individual areas and countries. High-resource countries usually have high or leveling incidence and decreasing mortality, suggesting an effect of earlier detection and/or earlier, more effective treatment. Prostate cancer mortality, for example, started to decline in several areas of the world, including the United States and the Tyrol, as early as 1993. The initial rise in incidence and the simultaneous decrease of mortality after 1993 in the United States are shown in Figure 1 [4]. Considering the long lead time produced by PSA-based early diagnostic measures (referred to by Center et al. in reference 32 [2]) and the fact that PSA-driven diagnostics became common only in the early 1990s, it is more likely that these early changes in mortality are due to improvements in treatment, mainly surgical technique and radiotherapy combined with endocrine treatment. This view is supported by an analysis

DOI of original article: 10.1016/j.eururo.2012.02.054

* Corresponding author. Erasmus MC, Department of Urology, Dr. Molewaterplein 40, Rotterdam, 3015 GD, The Netherlands.

E-mail address: secr.schroder@erasmusmc.nl, f.h.schroder@hetnet.nl (F.H. Schröder).

0302-2838/\$ – see back matter © 2012 European Association of Urology. Published by Elsevier B.V. All rights reserved. doi:10.1016/j.eururo.2012.03.019

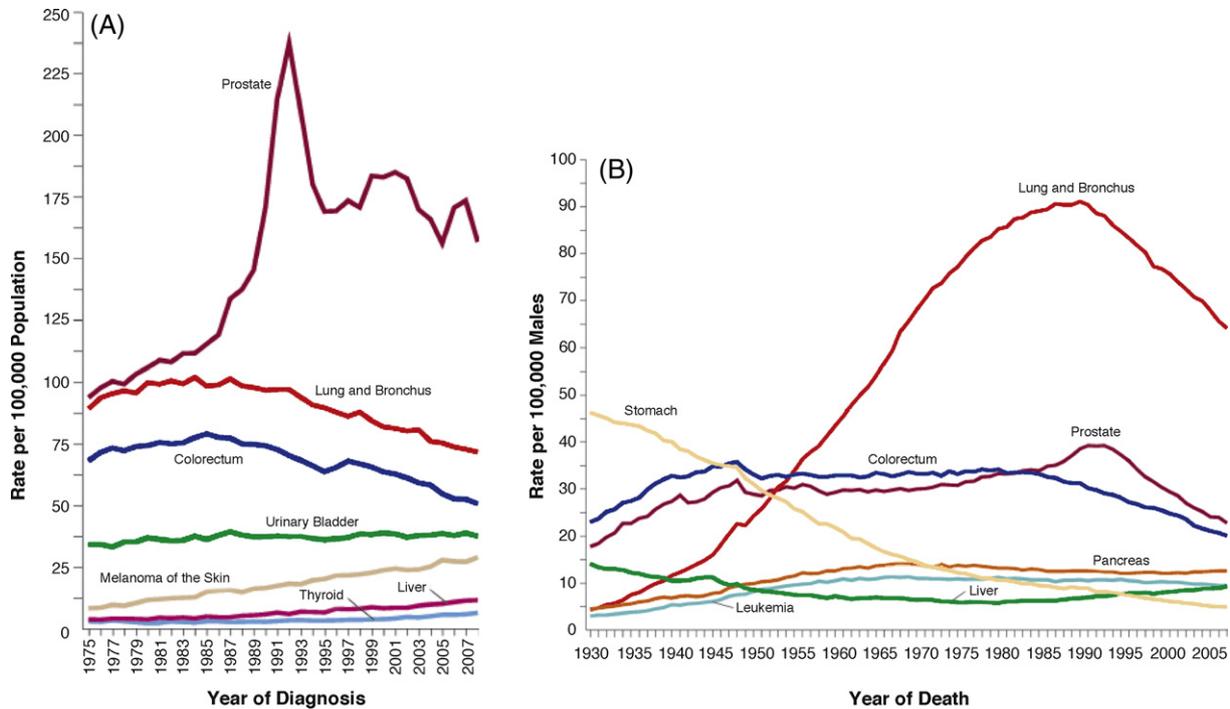


Fig. 1 – (A) Trends in incidence rates for selected cancers, United States, 1975–2008 [4]; (B) trends in death rates among males for selected cancers, United States, 1930–2008 [4].

of changes in potentially curative treatments in the United States prior to 1993, as shown in Figure 2 [5].

With respect to changing incidence in the more developed high-resource countries, Center et al. [2] conclude that regional differences in changes to diagnostic practice are “the greatest contributor to the variation in incidence rates.” A similar, more hesitant statement links early detection to lower mortality in the same setting. The limitations of the presently available data on this issue are carefully discussed. The rising incidence often shown to be independent of

underlying incidence and geographic location points toward the detection of minimal disease, which was shown in early studies to be equally prevalent in regions of low and high incidence of clinical prostate cancer [6].

The incidence and mortality data provided for the European areas are of special interest to our readers. Incidence and mortality rates are presented as age-standardized rates per 100 000. These rates differ greatly among different European regions, mortality being high in northern and western Europe and low in central and southern Europe. The presented data allow the calculation of incidence–mortality ratios, which, before the event of PSA-driven screening, were about 2:1, that is, one in two men diagnosed with prostate cancer used to die of his disease. This ratio has now increased in western Europe to 7.51:1, with a lifetime risk of death of about 3%. This illustrates the level of overdiagnosis, which is now very similar to North America, where, despite leveling incidence, the ratio still amounts to 8.7:1. This ratio remains high despite steadily decreasing mortality, with an average of 4% per year during the last 10 yr.

In some geographic areas we see developments that cannot be explained easily by changing diagnostic patterns. The most prominent example may be the republic of Korea, where the annual average percentage change showed increases in incidence and mortality of 13.8% and 7.8%, respectively. Clearly, epidemiologic findings remain descriptive and cannot unravel the reasons for change. In Korea, a country with traditionally low prostate cancer mortality, the increase in mortality may be due to lifestyle changes, whereas the incidence increase may be due to changing diagnostic patterns.

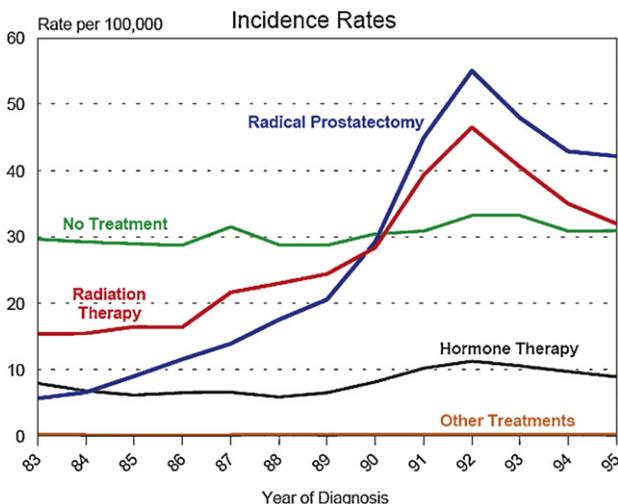


Fig. 2 – Change of incidence over time of prostate cancer treatment options [5].

This editorial is not meant to be critical of the great contribution provided by the authors [2]. There is little reason to criticize. Readers of *European Urology* may only hope that the authors will be ready to contribute updates to this review at regular intervals.

Conflicts of interest: The authors have nothing to disclose.

References

- [1] Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. *CA Cancer J Clin* 2011;61:69–90.
- [2] Center MM, Jemal A, Lortet-Tieulent J, et al. International variation in prostate cancer incidence and mortality rates. *Eur Urol* 2012; 61:1079–92.
- [3] Ferlay J, Shin HR, Bray F, et al. GLOBOCAN 2008, cancer incidence and mortality worldwide: IARC CancerBase No. 10. Lyon, France: International Agency for Research on Cancer; 2010.
- [4] Siegel R, Naishadham D, Jemal A. Cancer statistics, 2012. *CA Cancer J Clin* 2012;62:10–29.
- [5] Stanford JL, Stephenson RA, Coyle LM, et al. Prostate cancer trends 1973–1995, SEER Program, National Cancer Institute. NIH Pub. No. 99-4543. Bethesda, MD: National Institutes of Health; 1999.
- [6] Breslow N, Chan CW, Dhom G, et al. Latent carcinoma of prostate at autopsy in seven areas. *Int J Cancer* 1977;20:680–8.

www.emucbarcelona2012.org

Embracing Excellence in Prostate, Bladder and Kidney Cancer

16-18 November 2012
Barcelona, Spain



4th European Multidisciplinary Meeting on Urological Cancers organised by:

eau European
Association
of Urology

ESMO GOOD SCIENCE
BETTER MEDICINE
BEST PRACTICE
European Society for Medical Oncology

ESTRO
EUROPEAN SOCIETY FOR
RADIOTHERAPY & ONCOLOGY