Letter to the Editor

A model of the natural history of screen-detected prostate cancer

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Sir,

In their recent British Journal of Cancer paper, Parker et al (2006) were careful not to overplay the conclusions that can be drawn from their model of the natural history of screen-detected prostate cancer. They alerted the reader to the dangers of trying to learn about the effects of treatment on localised prostate cancer detected through prostate-specific antigen (PSA) testing when the results of randomised controlled trials are not available and data from observational studies are only available on men whose cancers were detected at a later stage of the disease. Parker et al also emphasised the importance of ongoing randomised trials, such as ProtecT (Donovan et al, 2003), which will provide direct and robust evidence of the effectiveness of different treatment approaches in men with PSA-detected disease. Regrettably, these notes of caution were absent from the ensuing coverage of the study in the UK media (Press Association, 2006).

In the large majority of cases detected with PSA testing, prostate cancer progresses very slowly, with death due to other causes most commonly intervening before the disease becomes life-threatening (Albertsen et al, 2005). PSA testing allows prostate cancer to be detected earlier, before symptoms develop, but there has been insufficient time since the introduction of testing in the 1990s for the most beneficial treatment approaches to be established through empirical studies. In this absence of observed data on the effects of treatment on PSA-detected disease, Parker et al (2006) utilised data on the 15-year survival of patients diagnosed at a later stage of their disease and managed conservatively (Albertsen et al, 1998), and data on the effect of radical vs conservative treatment on survival in men detected clinically (Bill-Axelson et al, 2005). These data informed a model that was used to predict the 15-year survival and effects of conservative and radical treatments in PSA-detected localised prostate cancer. Looking at survival and treatment effects in subgroups of men defined by their Gleason grade at diagnosis, Parker et al predicted that only 1% of those with lower grade (Gleason score less than 7) cancer would die of prostate cancer within 15 years, and concluded that there is no scope for these men to benefit from radical treatment.

A key feature of Parker et al’s (2006) model was the adjustment for the ‘lead time’ that PSA testing provides, that is, the amount of time by which PSA testing brings the diagnosis of prostate cancer forward, hence allowing the disease to be treated in its early stages. However, the estimated lead times may be too large, as they are based on all men in a cohort with localised prostate cancer irrespective of Gleason grade (Draisma et al, 2003). A proportion of the 13-year lead time observed in that cohort will be due to some cancers being diagnosed earlier than 7 for radical treatment.

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from Parker et al's (2006) paper are likely to be misinformed about the strength of available evidence, and may wrongly assume that taking part in the ProtecT trial is unnecessary or even inappropriate. It remains the case that it is only through the conduct of a randomised study such as the ProtecT trial that we will be able to provide robust and directly relevant data to inform the management of contemporary cohorts of men with PSA-detected localised prostate cancer.

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