

Update

Prostate cancer in African men

There is an erroneous perception that prostate cancer is relatively rare among black men in Africa. However, as Professor Chris Heyns of Stellenbosch University and Tygerberg Hospital argues, race is not a biological or genetic entity and indigenous black Africans are a heterogeneous group. Movement of black African slaves to the New World and later migration to parts of Europe mean that defining black or African race is even more complex, but in spite of this there are many studies that report radical racial differences in the biology of prostate cancer. Professor Heyns, speaking at the recent European Association of Urology Congress held in Berlin, took a critical look at these studies.

The incidence of prostate cancer varies by as much as 90-fold among different populations. The highest reported rates are among black African American men in the USA and the lowest rates are in Chinese men. Epidemiological studies from the USA have shown that, since the late 1930s, the incidence of and mortality associated with prostate cancer have been consistently higher among African American men than among Caucasian American men. The assumption has been that prostate cancer is more common and more aggressive among African American men.

This has been contrasted with indigenous black African men, who appear to have an incidence that is 10 times lower than that in the USA. The reported incidence rates are 4-11 per 100 000, compared with 33.7 per 100 000 for white men living in Africa. However, cancer incidence data in Africa are likely to underestimate the true rates because of under-diagnosis and under-reporting. There have been no sound prevalence studies in Africa. The studies that have been done are biased, either because they are of hospital populations, or because they have been carried out in clinic settings that are attended by few white men.

However, in black South African men prostate cancer is the second most common histologically diagnosed malignancy and in white men it is the third most common cancer. The frequency distribution of cancer in other African countries also indicates that prostate cancer is not rare.

In African countries the peak age for the occurrence of prostate cancer is about a decade earlier than that reported in most developed countries. But, the incidence of prostate cancer increases with age and the peak age at presentation depends on the life expectancy of the population. This is considerably lower in most African countries, so a lower age of presentation would be expected.

The stage at diagnosis also suggests under-diagnosis and under-reporting, since African men usually present with locally advanced or metastatic prostate cancer and are usually diagnosed because of longstanding symptoms or complications caused by advanced prostate cancer. Even in countries outside Africa, such as Jamaica, most black men present with advanced prostate cancer, probably because of limited access to or delayed use of medical services.

As far as screening is concerned, Professor Heyns points out that fewer African American men take part in voluntary screening sessions and a smaller proportion undergo recommended prostate biopsies, particularly in lower-income areas. This is similar to South Africa, where a much lower proportion of black men compared with white men taking part in an early detection study complied with the recommendation to undergo prostate biopsy. He also points out that in many African countries, serum PSA, transrectal ultrasound and needle biopsy facilities are not available and the diagnosis of prostate cancer is made clinically or after open, or very rarely, transurethral prostatectomy.

As far as treatment is concerned, African American men are more likely to undergo bilateral orchidectomy rather than receiving definitive or curative treatment for localised prostate cancer, regardless of income level. In most African countries the treatment of choice for advanced prostate cancer is bilateral orchidectomy, in spite of major cultural aversion to it, because of the problem of cost and compliance with medical treatment. Economic constraints also mean that oral diethylstilbestrol is often used instead of LH-RH agonists or anti-androgens.

Survival among African American men with prostate cancer is lower than among white men, which may be as a result of the higher incidence as well as higher tumour stage and grade at presentation, or lower use of curative treatment modalities.

However, most reports from the USA suggest that, when controlled for major prognostic factors, the outcome for clinically localised as well as advanced prostate cancer does not depend on race. There are no reliable age-adjusted prostate cancer mortality rates available for African countries.

There have been attempts to explain the apparently increased incidence of prostate cancer among African American men through genetic differences, dietary factors and higher serum testosterone levels or increased androgen receptor activity. However, there is little evidence to support the idea of racial differences in serum or prostatic tissue androgen levels.

The relationship between socio-economic factors, decreased awareness and limited access or decreased utilisation of health care and poorer outcomes in several cancers is well known. In Africa the reported incidence rates of prostate cancer in different countries correlate directly with per capita gross national product (GNP) – countries with the highest incidence have the highest GNP. It may be that the risk of prostate cancer is related to industrialisation, environmental pollution or diet in more affluent populations. But Professor Heyns thinks that it is more likely that increased diagnosis and reporting of prostate cancer is responsible for the higher incidence rates.

He concludes that the incidence of prostate cancer among black men living in Africa is probably similar to that of white men, but probably not as high as that for black men living outside Africa. He also feels that the increased mortality observed among African American men is probably due to a later stage at presentation or a lower utilisation of curative treatment, rather than greater biological tumour aggression. There is as yet no evidence that prostate cancer among black men living in Africa is biologically more aggressive than in other populations.

The bottomline is that medical practitioners should be as willing to look for a diagnosis of prostate cancer among African men as they are among white men.

Heyns C. Is prostate cancer more common and more aggressive in African men? Paper presented at the European Association of Urology Congress, Berlin, 2007.

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