

Finger length 'predicts prostate cancer'

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"The length of a man's fingers can provide clues to his risk of prostate cancer, according to new research," BBC News reported today.

The research compared patterns in finger length in 1,524 men with prostate cancer and 3,044 men without cancer. It found a longer index finger relative to a shorter ring finger was associated with lower cancer risk. The researchers suggest that finger length relates to sex hormone levels in the womb, and that being exposed to less testosterone leads to having both longer index fingers and a lower risk of cancer.

The authors of the study appropriately conclude that finger ratio could potentially be a "marker" for prostate cancer risk, although determining the reason behind such an association is difficult. While age, family history and ethnicity are quite firmly established risk factors for prostate cancer, the role of many other genetic, biological and environmental risk factors is currently less clear. It is also possible that, along with genetic and biological factors, some other unknown factor related to hormones may be associated with both finger length and cancer risk. The reasons behind these interesting results should, ideally, be clarified by further research in this area.



Men whose index finger is longer than their ring finger are at lower risk, study

Where did the story come from?

This study was authored by researchers from The University of Nottingham and other research and academic institutions in the UK. The study was funded by the Prostate Cancer Research Foundation and Cancer Research UK. The study was published in the peer-reviewed medical journal the British Journal of Cancer. In general, news coverage has reflected the findings of this study accurately.

What kind of research was this?

The researchers suggest that the ratio of finger lengths is determined while a baby is still in the uterus, and that this measure might be a potential indicator of a man's risk of prostate cancer. They believe that the two factors are related to testosterone exposure. Being exposed to less testosterone in the womb theoretically leads to longer index fingers and lower testosterone levels are also thought to be related to reduced risk of prostate cancer.

The researchers used a case control study to test this theory. The finger lengths of men with prostate cancer were compared with those of a control sample of men without the disease from the population. Although this was a cross-sectional study, meaning the exposure and outcome were assessed at the same time, it is clear that finger length would have been determined before the onset of the cancer.

The greater difficulty, however, is in determining the possible underlying reason for any observed association. Although age, family history and ethnicity are quite firmly established risk factors for prostate cancer, the potential influence of other genetic, biological and environmental risk factors is not clear. It is possible that some other genetic or biological factor may be associated with both finger length and cancer risk.

What did the research involve?

Between 1994 and 2009 information was collected on 1,524 men with prostate cancer identified through three large hospitals, as well as 3,044 community-based controls recruited through their GP. These controls were known to be free of urinary symptoms suggestive of prostate problems. All men were under 80 years of age. All eligible participants completed a postal questionnaire giving information on the lengths of the fingers of their right hand. To help them do this they were given a series of pictures to compare their hands to. The options were: index finger longer than the ring finger index finger equally as long as the ring finger index finger shorter than the ring finger (considered to be the reference category) The results were adjusted for age and social class only.

What were the basic results?

Fewer men in the control group completed the assessment questionnaires (70% of controls versus 83% of cases). Average ages were 62 years among cases and 57 years among controls, with 90% of the total sample being of white ethnicity.

Of the 1,524 cases, 872 (57.2%) reported a shorter index finger, 305 (20.0%) reported fingers of equal length and 347 (22.8%) reported a longer index finger. Of the 3,044 controls, 1,570 (51.6%) reported a shorter index finger, 538 (17.7%) reported fingers of equal length and 936 (30.8%) reported a longer index finger.

The main findings were that men with an index finger longer than their ring finger had a reduced risk of having cancer compared with men with an index finger shorter than their ring finger (odds ratio 0.67, 95% confidence interval 0.57 to 0.80).

How did the researchers interpret the results?The researchers conclude that the pattern of finger lengths may be “a simple marker of prostate cancer risk”, with a longer index finger relative to ring finger being associated with lower risk.

Conclusion

This case control study of men with and without prostate cancer has strengths, including its large sample size. Another strength is the fact that, though the ‘exposure’ (estimated in this case using finger length) was assessed once prostate cancer was already established, it is clear that the ratio of finger lengths preceded the onset of cancer.

However, it is difficult to determine the underlying reason for any observed association. Although age, family history and ethnicity are quite firmly established risk factors for prostate cancer, the potential influence of other genetic, biological and environmental risk factors is not clear. It is possible that some underlying genetic or biological factor may be influencing both finger length and risk of prostate cancer. In this case the researchers consider hormone exposure to be the most likely factor affecting both of these things. As such the researchers may be correct in considering their findings to be “a marker of prostate cancer risk” but future research is needed to identify the possible underlying reasons why this might be the case.

The study does have a couple of further limitations worthy of note:

Men self-reported their own finger ratios by matching them to a series of pictures. There may be some inaccuracy in the measurement of finger length, particularly when lengths are similar. Men in the control group were not confirmed to be free of cancer. The fact that they did not have current urinary symptoms does not mean that they did not already have early stage cancer or would not develop cancer in the future, particularly when it is remembered that they were slightly younger than cases. Participation rates were lower among controls compared with cases. As this was not adjusted for in the analysis it is possible that this could have had an unknown effect on the results. The study did not look at the actual differences in finger length, only which finger was longer. Therefore, it is difficult to assess how marginal any differences in finger length might be or estimate if larger differences in finger length were linked to greater cancer risk. The study looked only at participants' right hands, but some other studies comparing finger length on both hands have suggested that the relationship between hormone exposure and finger length is not straightforward. This research raises interesting questions worthy of further study. For example, the strength of the underlying theory that testosterone levels in the womb are linked to finger length ratios could itself be tested.

Short index fingers, so the researchers say, occur in half of all men, and prostate cancer is less common than this. This suggests that other factors might be more important and that finger length alone may not be as good a screening test as the researchers and some newspapers imply.