Background

Recent epidemiological studies have raised important questions about a possible relationship between vasectomy and prostate cancer. Any relationship between vasectomy and prostate cancer, if proven, would be of great significance to individual and public health. An estimated 20% of men over 35 years of age in the United States have had a vasectomy, a highly effective method of family planning with low surgical risks. Prostate cancer is the most commonly diagnosed cancer in U.S. men and is second only to lung cancer in cancer mortality among men. An estimated 1 in 11 U.S. men will develop clinical prostate cancer in their lifetimes. Little is known about the etiology and pathogenesis of prostate cancer. In countries where the incidence of prostate cancer is low, a relationship of the magnitude that some studies have shown, even if real, would be of little significance to individual and public health.

Findings from past epidemiologic studies investigating a relationship between vasectomy and prostate cancer have been conflicting. Two recent studies found a weak positive association; however, data from new unpublished studies reviewed at a March 1, 1993 NIH meeting are reassuring, in that little or no association was evident.

Positive associations that have been found may be valid, or they may be due to detection bias, to other sources of bias, or to chance. There is a strong potential for detection bias since much of prostate cancer is undetected and underreported. This observation, along with differences in the use of health care services between men who have had vasectomies and those who have not, may result in different rates of detection between the groups.

The credibility of a possible causal relationship between any disease and a particular factor is stronger if a biological mechanism is known to exist. In this case, there is no biological evidence for an association between vasectomy and prostate cancer.

Policy Recommendations

All contraceptive methods carry some risks as well as their recognized benefits. When making decisions about contraception, each individual or couple must be informed about and weigh the various risks and benefits in light of their particular circumstances and the risks associated with pregnancy.

Because the results of current research on vasectomy and prostate cancer are inconsistent, and associations that have been found are weak, there is insufficient basis for recommending a change in clinical and public health practice at this time.

In light of this:

- Providers should continue to offer vasectomy and to perform the procedure.
- Reversal of vasectomies is not warranted to prevent prostate cancer.
- Screening for prostate cancer should not be any different for men who have had a vasectomy than for those who have not.

Research Recommendations

Because of potential individual and public health implications, it is important that the question of any relationship between vasectomy and prostate cancer be fully and expeditiously resolved. Both epidemiologic and basic biologic research are needed to resolve existing questions. Specifically:

- Epidemiologic studies should address methodologic limitations in existing studies of the vasectomy and prostate cancer relationship, including concerns regarding selection bias, detection bias and problems ascertaining both exposure (vasectomy) and outcome (prostate cancer). They should also address the implications of trends in screening on epidemiologic studies of vasectomy and prostate cancer. Epidemiologic studies should be able to evaluate men at 20 years or more after vasectomy.
• Biologic research should better evaluate the etiology and pathogenesis of prostate cancer in both men and experimental animals, the relationship between vasectomy and prostate pathology and function, and any relationship between vasectomy and prostate cancer.

• Epidemiologic and biologic studies should be integrated, where appropriate, to take advantage of the strengths of both approaches.

Since patterns of use of vasectomy and the incidence of prostate cancer vary among countries, international studies should be pursued, as well as U.S.-based studies, in efforts to resolve existing questions.

8:30 AM, Tuesday, March 2, 1993, Building 31, Conference Rooms 7 & 8 Scientific Panel

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Chairman, Department of Genitourinary Pathology, AFIP

Policy Panel

Barbara S. Hulka, MD, MPH (Chair)
Department of Epidemiology, University of North Carolina

Arnold Belker, MD
Division of Urology, University of Louisville School of Medicine

Jacqueline Darroch Forrest, PhD
Vice President for Research, The Alan Guttmacher Institute

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