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Patient beliefs about lung cancer surgery may contribute to differences in lung cancer surgery rates and may help explain why African Americans with lung cancer do not survive as long as Caucasians with lung cancer.

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The Importance of Understanding Patients' Beliefs When Trying to Understand Disparities in Lung Cancer Surgery and Survival

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Context: Lung cancer is the second most common cancer and the top cause of cancer death among men and women in the United States. Recently, overall survival for localized lung cancer has improved, largely due to improved surgical techniques. However, the five-year survival rate for lung cancer among African Americans remains lower than the five-year survival rate of Caucasian patients. This disparity may be due to lower rates of surgery for early-stage disease among African American patients compared to Caucasian patients. The reasons for the difference in lung cancer surgery rates remain unknown, but might include inadequate access to medical care, excessive co-morbidities among African Americans that preclude curative surgery, racial prejudice on the part of health care providers, and patient preferences. This policy brief summarizes work by Dr. Mitchell Margolis and colleagues that explores and documents differences in patient preferences for surgery. Although differences in patient preferences are likely to be only part of the answer, they may help explain some of the persistent disparities in lung cancer surgery.

Background

While caring for patients with lung cancer, physicians at the Philadelphia Veterans Affairs (VA) Medical Center noticed that some patients were reluctant to undergo potentially curative surgery. When asked why, some patients responded that they believed that exposing lung tumors to air during surgery increases the chance that these tumors will spread. In addition, several African American veterans reported that this belief was commonly held in their community. This belief is not supported by scientific evidence. The researchers wondered, however, about the extent of this conviction among their patients. They designed a study to assess the origin, distribution, and importance of the belief among outpatients attending five pulmonary or thoracic surgery practices located in three cities in the United States.

A geographically diverse sample of US patients, who had lung cancer or were at risk of lung cancer, participated in this study.

A number of patients indicated that they believe that lung cancer spreads if exposed to air during surgery.

A higher percentage of African Americans than Caucasians reported that they believe that lung cancer surgery can cause cancer to spread.

Methodology

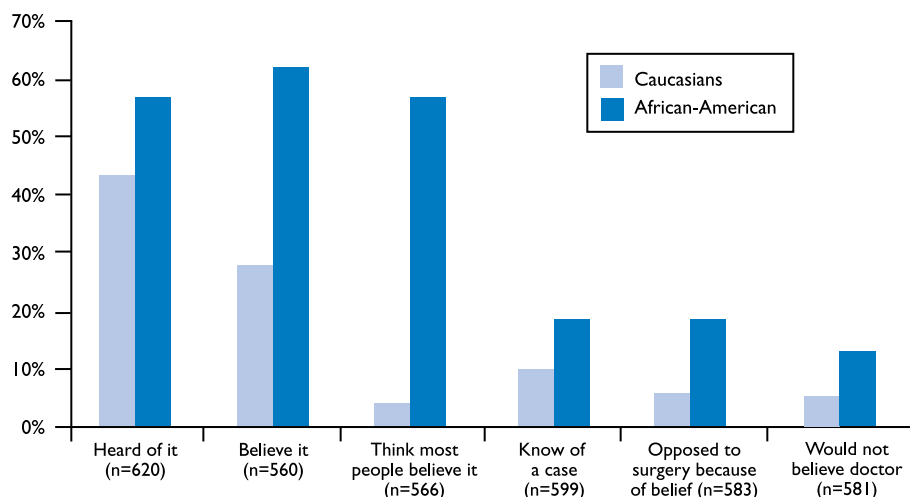
- Subjects were recruited from the outpatient clinics and medical practices of the Philadelphia and Los Angeles VA Medical Centers, University of Pennsylvania in Philadelphia, and Medical University of South Carolina in Charleston. The study sites were chosen to include adequate numbers of African American and Caucasian patients from the Northeast, South, and West Coast, and included two VA clinics, three non-VA clinics. Three of these clinics serve pulmonary outpatients at risk for lung cancer, and two serve patients with lung tumors or cancers.
- Between July 1, 1999 and December 31, 2000, clinic personnel distributed anonymous, self-administered questionnaires to patients at the time of a clinic visit. Patients completed the questionnaires while waiting to be seen by a physician.

Results

- Of the 652 questionnaires distributed, 626 were completed. Respondents included 251 VA patients (153 from Philadelphia, 98 from Los Angeles), 151 pulmonary outpatients at the University of Pennsylvania, 127 thoracic surgery outpatients from the same institution, and 97 chest cancer clinic patients from the Medical University of South Carolina. Four percent of clinic attendees declined to participate.
- The sample reflected the geographic distribution of the clinics surveyed (Northeast 64%, West Coast 16%, South 15%). The patients were predominantly middle aged or elderly, with a mean age of 60. Most patients were male (67%), Caucasian (69%), and lived in urban settings (69%). Twenty-seven percent (27%) listed their race as black or African American.
- Nearly half of all subjects (45%) had heard that lung cancer spreads if exposed to air during surgery, and almost as many (37%) believed it to be true. While 49% thought most people they know believed it, 12% knew of a case where surgery had caused cancer to spread. The belief is strongly held among some patients; 10% identified it as a reason to oppose lung cancer surgery, and a similar percentage (9%) would not believe their doctor's advice that the belief was false.
- As shown in the figure, Caucasian and African American patients differed in their responses to the survey questions. For example, 29% of Caucasians versus 61% of African Americans thought the study belief was true. Whereas 9% of Caucasians indicated that they knew of an incident when lung cancer surgery had caused tumor spread, 19% of African Americans reported knowledge of such an incident. Five-percent (5%) of Caucasians would oppose surgery based on the belief versus 19% of African Americans. Similarly, 5% of Caucasians versus 14% of African Americans would not believe their doctor if the physician's advice contradicted the study belief. Statistical analysis showed that these differences were unrelated to income, education, gender, and other measured variables.

- About one in five (21%) responded to the survey question asking where and when the study belief was first encountered. Responses were generally vague (“don’t remember” or “from the gossip mill”) and did not differ appreciably between African American and Caucasian respondents. Many subjects did however recall personal experiences or cases known to them in which widespread tumor dissemination was definitively established only at the time of lung cancer surgery.

Belief that Lung Cancer May Spread if Exposed to Air During Surgery



Note:

- Currently, there is no direct scientific evidence that tumors spread upon contact with air during surgery. However, it might be possible that tumor extirpation, perhaps by removing angiogenesis inhibitors (substances that stop blood vessels from forming), leads to cancer spread in some instances. In addition, many physicians can cite anecdotal cases in which cancer seemed to “crop up” shortly after pulmonary resection.

Implications

- The belief that exposing a lung tumor to air accelerates its spread was pervasive among both African American and Caucasian populations, but was more common among African Americans. Although this study does not prove that this belief explains the lower surgery rates among African Americans, it illustrates how strongly held personal beliefs can be associated with important cancer treatment decisions.
- Lower rates of surgical treatment (and survival) may be remediable via culturally sensitive outreach programs targeted at all patients at risk for lung cancer. Such programs must respect social and cultural models, be mindful of the current mistrust and disenfranchisement of African American and other patients in the current U.S. health care system, yet also reflect contemporary uncertainties regarding tumor biology and metastatic spread.
- Diverse attitudes and beliefs may underlie other racial differences in health care, by serving to polarize specific populations from advances in health care. The identification and modification of harmful beliefs may provide a realistic, practical, and promising means to overcome important racial disparities in health care outcomes.


Patients could not identify the source of their belief; however, a number reported personal experiences that supported the idea.

This issue of the CHERP Policy Brief is based on the following article: Margolis ML, Christie JD, Silvestri GA, Kaiser L, Santiago S, Hansen-Flaschen J. *Racial differences pertaining to a belief about lung cancer surgery: results of a multicenter survey*. *Annals of Internal Medicine* 2003 Oct 7; 139(7): 558-563. The Web site of the American Cancer Society (www.cancer.org) was also a source of information.

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