RADICAL PROSTATECTOMY: LOWER RATES AMONG AFRICAN-AMERICAN MEN

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This study compares radical prostatectomy rates by race among male Medicare patients in New York. A retrospective analysis was conducted of all radical prostatectomies performed on hospitalized male Medicare beneficiaries for the period 1991 through 1993. Basic trend data also were analyzed for 1990. Pattern analysis was conducted on the 4154 procedures performed between 1990 and 1993. The rate of radical prostatectomy rose dramatically during the 3-year period from 1990 to 1992 among New York's 1.1 million male Medicare beneficiaries. The rates rose for both African Americans and whites. However, the annual rates of radical prostatectomy for African Americans were significantly below those for whites. Lower rates of radical prostatectomies were observed for African Americans in all age groups except the <65-year-old group. However, the total number of radical prostatectomies in this age group were small in number. An important finding was the lower annual rates of radical prostatectomy for African Americans in the 65- to 69-year-old age group. During the period under study, prostate cancer among Medicare patients in New York rose by 33.8% for African Americans and 26.5% for whites. Significantly, local disease was found at the time of diagnosis in 70% of whites but in only 55% of African Americans. These data reflect later stage at diagnosis among African-American males.

These results indicate that despite higher national rates for prostate cancer, male African-American Medicare patients in New York have reduced access to radical prostatectomy as a treatment modality. This is especially of importance in the <70-year-old group in whom most authorities consider the procedure appropriate. The reasons for this reduced access are discussed as are the measures needed to remedy the underlying inequities in health care. (J Natl Med Assoc. 1996;88:589-594.)

Key words • prostate cancer • radical prostatectomy • African-American males

Approximately 165,000 new cases of prostate cancer are diagnosed annually in the United States, and 35,000 deaths occur from this disease.[1] In 1993, age-adjusted incidence rates per 100,000 were 136 for African Americans and 101.9 for whites. Age-adjusted mortality rates per 100,000 were 47.1 for African-American men and 23 for whites. The lifetime risk of prostate cancer among African-American men is twice that of white men.[2-4]

The number of cases of prostate cancer reported among African-American males enrolled in the Medicare program in New York rose 33.8% from 1131 in 1991 to 1514 in 1993. During the same time period, the number of cases among white male Medicare beneficiaries in the state rose 26.5% from 8901 to 11,265. Significantly, local stage disease was found in 70% of whites but in only 55% of African Americans.[5] This may reflect, as Brawn et al[6] have shown, differing levels of access to medical care between whites and African Americans.

This study compared radical prostatectomy rates by race among male Medicare patients in New York. This study was undertaken as a cooperative project within the

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TABLE 1. CASES OF PROSTATE CANCER AND RADICAL PROSTATECTOMIES AMONG MEDICARE PATIENTS IN NEW YORK BY YEAR, 1990 TO 1993

	1990	1991	1992	1993
No. prostate cancer cases	11,321	10,435	12,673	13,404
No. radical prostatectomies	478	824	1451	1401
No. male Medicare claims	376,906	323,219	332,553	367,296
No. radical prostatectomies per 100,000 male Medicare claims	126.8	254.9	436.3	381.4
No. radical prostatectomies per 100,000 male Medicare beneficiaries*	43.3	74.7	131.5	127.0

*No. male Medicare beneficiaries=1,103,102.

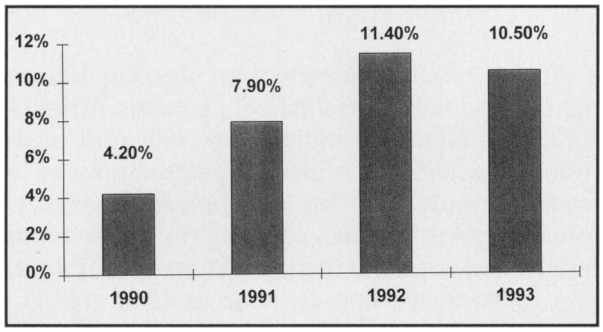

Figure. Percent of patients with prostate cancer who underwent prostatectomies, 1990 to 1993.

context of the Health Care Financing Administration's Health Care Quality Improvement Program.

METHODS

All radical prostatectomies performed on hospitalized male Medicare beneficiaries in New York for the period 1991 to 1993 were identified through the Medicare claims database. Basic trend data also were obtained for 1990. For the purposes of this study, radical prostatectomy was defined on the basis of the *International Classification of Disease, Ninth Revision, Clinical Modification* (*ICD-9-CM*) procedure code 60.5.[7] Medicare claims for the 3-year period from 1991 to 1993 were analyzed by year, age group, and race.

RESULTS

Pattern analysis of the 4154 Medicare claims for 1990 to 1993 revealed several trends.

Overall Trends in Radical Prostatectomy

During the 3-year period 1990 to 1992, the rate of radical prostatectomy among New York's 1.1 million male Medicare beneficiaries dramatically rose from 43.3/100,000 to 131.5/100,000 (Table 1). In 1993, the rate plateaued at 127/100,000. An analysis of the percentage of Medicare patients diagnosed with prostate cancer undergoing radical prostatectomy showed a similar trend, with a plateau effect in 1992 (Figure).

Trends by Racial Groups

The Medicare claims database groups patients into four categories: African American, white, other, and unknown. An examination of radical prostatectomy rates per 100,000 beneficiaries by racial groups for the period 1991 to 1993 revealed consistently lower annual rates for African Americans compared with whites (Table 2). The rate for African Americans rose to 111.2/100,000 in 1992 while that for whites rose to 138.8/100,000. There was a plateau effect across both groups in 1993. The numbers of radical prostatectomy cases in the other and unknown categories were small each year, rendering the results of time trend analysis of little value. The African-American/white ratio of radical prostatectomies by year was as follows: 1991—0.59, 1992—0.84, and 1993—0.86.

An examination of radical prostatectomy rates per 100,000 beneficiaries by age and racial groups for 1991 to 1993 revealed significantly lower rates for African Americans except in the <65-year-old group. However, the total numbers of radical prostatectomies in this group were small in magnitude each year for African Americans. A significant finding is the much lower annual rates of radical prostatectomy for African Americans compared with whites in the 65- to 69-year-old group (Table 3). This is the age group that had the highest annual prostatectomy rates across both race groups.

DISCUSSION

These results show a marked increase in the rate of radical prostatectomies among Medicare patients over the 4-year period 1990 through 1993. During this time, the number of reported prostate cancer cases increased only modestly. However, the percentage of diagnosed patients undergoing radical prostatectomy increased sharply from 4.2% in 1990 to 11.4% in 1993. Increased

TABLE 2. RADICAL PROSTATECTOMY BY RACE, NEW YORK, 1991 TO 1993

	1991		1992		1993	
	African Americans	Whites	African Americans	Whites	African Americans	Whites
No. prostate cancer cases	1131	8901	1358	10,763	1514	11,265
No. radical prostatectomies	46	742	108	1280	110	1215
No. radical prostatectomies per 100,000 cases	40.7	83.4	79.5	118.9	72.7	107.9
No. male Medicare claims	29,915	276,093	32,175	280,406	32,441	311,316
No. radical prostatectomies per 100,000 male Medicare claims	153.8	268.8	335.7	456.5	339.1	390.3
No. radical prostatectomies per 100,000 male Medicare beneficiaries*†	47.4	80.5	111.2	138.8	113.3	131.8

*No. African-American beneficiaries=97,124.
†No. white beneficiaries=922,158.

radical prostatectomy rates have been documented nationally since the mid-1980s.[8] A principal reason for this is thought to be an increase in the rate of reported prostate cancer resulting from increased detection associated with new screening programs and the expanded use of prostate specific antigen testing.[9,10] However, New York's modest increase in prostate cancer cases of 18.4% between 1990 and 1993 would seem to have contributed only partially to the 93.1% increase in radical prostatectomies over the same time period. Thus, the increase in radical prostatectomies in New York over this time frame would seem to have been due to other factors.

Whitmore[9] has outlined some of the other reasons why radical prostatectomy rates have risen sharply in recent years. These include:

- an improved nerve-sparing procedure claimed by proponents to result in a more acceptable outcome in terms of postoperative potency morbidity,
- an increase in the proportion of urologists who have learned to perform radical prostatectomies during residency training,
- a widespread belief (not based on scientific proof) among both patients and physicians that the results of radical prostatectomy in terms of long-term survival are superior to the options of watchful waiting and radiation,
- a relaxation of criteria used for the procedure, and
- the diagnosis of most prostate cancer by urologists who are inclined to recommend therapeutic interventions reflecting their discipline.

It is reasonable to conclude that the sharp increase in the rate of radical prostatectomies in New York has been due to a combination of these factors.

Between 1984 and 1990, New York's rate for radical prostatectomy for male Medicare beneficiaries was 50/100,000.[8] During that same period, much higher rates were observed in many other states including Alaska (429/100,000), California (170/100,000), Utah (299/100,000), and Washington (327/100,000). By comparison, New York's highest overall reported rate of 131.5/100,000 in 1992 was significantly lower than those observed in the 1980s in a number of states. Lu-Yao et al[8] demonstrated that the rate of radical prostatectomy in New York and other mid-Atlantic states was significantly lower in the 70- to 74-year-old and 75- to 79-year-old groups compared with rates in the central, southern, and western parts of the country. This may reflect the relatively conservative use of radical prostatectomy on the part of the urologic community in New York in elderly patients at the time. Radical prostatectomy rates among patients younger than 70 years have been significantly lower in New York than those in many parts of the county.[8] This may reflect both a conservative use of the procedure and inadequate patient access to diagnosis and treatment. This problem could be remedied in part by provider- and patient-focused educational efforts.

Increases in radical prostatectomy rates were observed in this study across all age groups. These increased rates are of concern in older men who, according to a number of studies, are unlikely to die of prostate cancer before they succumb to other causes.[11-15] Expectant treatment (watchful waiting) is advocated by a number of authorities for men who have a life expectancy <10 years.[12] Expectant treatment also has resulted in low death rates of 9% to 15% among men with local disease, putting into question the need to treat

TABLE 3. RADICAL PROSTATECTOMY BY RACE AND AGE GROUP, NEW YORK, 1991 TO 1993

	<65 Years		65 to 69 Years		70 to 74 Years		>74 Years	
	African Americans	Whites	African Americans	Whites	African Americans	Whites	African Americans	Whites
1991								
No. cases prostate cancer	29	115	239	1608	284	2010	579	5191
No. radical prostatectomies	4	15	23	383	18	281	1	63
No. male Medicare claims	9059	32,204	6310	55,456	5648	59,857	8916	128,649
No. radical prostatectomies per 100,000 male Medicare claims	44.2	46.6	364.5	690.6	318.7	469.5	11.2	49.0
No. radical prostatectomies per 100,000 male Medicare beneficiaries*†	11.8	8.3	80.6	146.9	82.4	130.7	4.3	20.4
1992								
No. cases prostate cancer	60	157	340	1955	384	2387	687	6041
No. radical prostatectomies	10	31	62	743	35	414	4	63
No. male Medicare claims	11,183	34,073	6337	53,378	6251	59,540	9519	131,684
No. radical prostatectomies per 100,000 male Medicare claims	89.4	91.0	978.4	1392	559.9	695.3	42.0	47.8
No. radical prostatectomies per 100,000 male Medicare beneficiaries*†	29.5	17.2	217.3	285	162.9	192.6	17.1	20.4
1993								
No. cases prostate cancer	36	125	298	2103	350	2498	680	6083
No. radical prostatectomies	6	23	60	735	38	448	5	80
No. male Medicare claims	10,243	33,036	6437	55,198	6057	61,107	9647	132,038
No. radical prostatectomies per 100,000 male Medicare claims	58.6	69.6	932.1	1331.6	627.4	733.1	51.8	60.6
No. radical prostatectomies per 100,000 male Medicare beneficiaries*†	17.7	12.8	210.3	281.9	176.9	208.4	21.4	25.9

*No. African-American beneficiaries: 33,915 (<65 years); 28,534 (65 to 69 years); 21,481 (70 to 74 years); and 23,408 (>74 years).
†No. white beneficiaries: 180,390 (<65 years); 260,688 (65 to 69 years); 214,979 (70 to 74 years); and 309,310 (>74 years).

everyone.[1,11,12,14-17] Walsh,[18] a leading prostate surgeon, has stated that he has "...never been enthusiastic about radical prostatectomy in men older than 70 years." The reasons he puts forth for this position are that the shorter longevity of older men supports the objective of palliation as opposed to that of cure, the higher rates of incontinence and impotency in older men, and the frequently more advanced tumor stage in older men from that indicated by clinical staging.

In 1993, age-adjusted incidence rates in the United States for prostate cancer per 100,000 were 101.9 for whites and 136 for African Americans. Age-adjusted mortality rates were 23 and 47.1, respectively. Five-year survival rates from time of diagnosis between 1981 and 1987 were found to be 76% for whites and 63% for African Americans.[4] Viewed from another perspective, the lifetime risk of prostate cancer among African-American men is twice that of white men. Mortality from the disease is three times greater among African Americans.[2-4,19]

The higher mortality for African Americans is thought to be related to stage of disease at the time of diagnosis. Austin et al[20] found that 65% of white men <65 years had localized disease whereas only 45% of African Americans did. The Surveillance, Epidemiology, and End Results (SEER) data show that African-American men have a 30% to 50% greater risk than their white counterparts of having regional spread of their disease at the time of diagnosis and a 220% to 330% greater risk of distant metastasis.[21]

The data from the present study demonstrate consistently lower annual prostatectomy rates for African Americans than whites in most age groups (Table 3). These data are particularly significant in the 65- to 69-year-old group in whom radical prostatectomy is an appropriate procedure for the treatment of localized prostate cancer. The African-American/white ratios were 0.59 (1991), 0.84 (1992), and 0.86 (1993). Thus, while the ratio rose over time, it still showed fewer African Americans than whites undergoing radical prostatectomy.

A number of studies have found that later stage at time of diagnosis precludes many African Americans from consideration for radical prostatectomy. For example, Brawn et al[6] found in a study of a Veterans Administration Medical Center population that 26% of whites and 52% of African Americans presented with stage D disease. Given the presumed equal access to medical care of this population across racial groups, they concluded that factors other than eligibility for medical care may have been responsible for the much higher proportion of African-American men with stage D disease. They proposed two principal reasons: differences in access (eg, transportation or use of available medical care) and differences, as yet unidentified, in prostate cancer, which may make early diagnosis difficult in African Americans.[6]

Polednak and Flannery,[22] using a population-based cancer registry in Connecticut, found a higher rate of metastatic disease at diagnosis in African Americans (35.4%) compared with whites (22.1%). They also found that for localized disease, there was a significantly lower use of prostatectomy in African Americans compared with whites in patients younger than 70 years.[22] We found similar lower use of prostatectomy in African Americans than whites in those 65 to 69 years (Table 3). Polednak and Flannery[22] offer three explanations for these findings: longer patient delay between the time that symptoms appear and medical care is sought, lower screening rates and less chance of early detection in African Americans, and African-American/white differences in tumor biology or other factors influencing tumor progression.

It is reasonable to assume that the significantly lower radical prostatectomy rates for African Americans observed in the present study reflect to some degree inoperable later stage at diagnosis. However, this in turn may be due to both poorer quality of care and unequal access to screening for African Americans. African-American and white Medicare patients share equal health coverage eligibility, but accessibility and quality of care may not be the same. Kahn et al[23] recently showed that race and poverty influence access to care even among those who are insured. They also demonstrated that race characteristics and poverty influence the quality of care received by insured patients after they have gained access to the hospital. As Ayanian[24] has observed, "Racial and socioeconomic disparities in medical care persist across a wide range of hospitals, even when patients are insured or have access to free care."

An analysis of Medicare data on 17 surgical procedures for 1986 and 1992 by McBean and Gornick[25] of the Health Care Financing Administration demonstrated that African Americans were less likely than whites to be hospitalized for surgical diagnosis related groups. With regard to prostatectomy, these authors found an African-American/white ratio of 0.97 for 1992. This is slightly higher than the 0.84 found in the present study. However, McBean and Gornick included several prostatectomy codes (60.2-60.6) whereas we used only one code (60.5 for radical prostatectomy).

McBean and Gornick[25] and other authors have drawn attention to several factors that influence procedure rates by race. Among these are financial disincentives for African-American Medicare beneficiaries.[25] Escarce et al[26] and Rice and McCall[27] have shown that a greater percentage of African-American than white Medicare beneficiaries are exposed to out-of-pocket deductibles and copayments. In 1989, the National Health Interview Survey estimated that 79% of white Medicare beneficiaries supplemented their Part A and Part B Medicare coverage with either private insurance or Medicaid, but only 54% of African-American Medicare persons did.[28] Thus, it appears that supplemental health insurance coverage plays a role. McBean and Gornick[25] believe another factor may be that African Americans are less likely to receive their medical care from private physicians. They may be more likely to receive their care from other sources, which may result in medical care management delays and increases in the time to surgery.

Given these findings, late stage at diagnosis with prostate cancer in African Americans must be viewed as due in part to poor quality of care and access problems and not solely to a failure to seek care. The latter is certainly a factor that in some instances leads to late stage diagnosis of prostate cancer. As recently shown by Price et al,[29] it is often due to low levels of knowledge about disease prevention on the part of African-American patients. These investigators found that less than half of the African-American men they surveyed knew at what

age they should have prostate examinations. Close to 60% of those surveyed did not know of the comparatively higher rate of prostate cancer for African-American men. Forty-two percent did not know how a physician examines a patient for prostate cancer. The findings of Price et al[29] point to a need for increased health education among African-American men. Similarly, those of Kahn et al[23] and Polednak and Flannery[22] make a strong case for provider education to remedy inequities in health care for medically insured African Americans. The findings of the present study with regard to significantly lower radical prostatectomy rates in African Americans, especially in the 65- to 69-year-old group, strongly support the need for both types of educational intervention.

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