

Despite poor representation of older persons in trials, treatment decisions need to be made. The relatively few older people included in any single trial make it difficult to conduct a meaningful subgroup analysis. Subgroup analyses are possible using meta-analysis, as illustrated by a recent review of hypertension trials. Gueyffier et al<sup>4</sup> evaluated 1670 patients who were at least 80 years of age participating in 7 major hypertension trials. Antihypertensive treatment relative to placebo reduced the risk for stroke, major cardiovascular events, and heart failure, but did not affect mortality. This meta-analysis supports treatment of hypertension in people of advanced age.

The key clinical question may not be whether a drug therapy should be administered to an older person, but how best to prescribe that therapy. For example, while  $\beta$ -blocker therapy has proven beneficial in patients with heart disease, the vast majority of older people are prescribed dosages lower than were evaluated. Among 10 991 myocardial infarction survivors dispensed  $\beta$ -blocker therapy in Ontario, 9458 (86.1%) were dispensed a lower than evaluated dose.<sup>5</sup> Older people may not tolerate dosages of drug therapies that were tested on younger, fitter, and male patients. Barron et al<sup>6</sup> demonstrated that use of lower dosages of  $\beta$ -blocker therapy was associated with similar mortality reduction relative to higher dosages.

We fully support the need to increase the representation of older patients in clinical trials. In the absence of adequate data on drug efficacy and safety, we agree that therapeutic decisions need to be individualized in very old patients.

Paula A. Rochon, MD, MPH, FRCPC  
University of Toronto  
Toronto, Ontario

Jerry H. Gurwitz, MD  
Meyers Primary Care Institute  
Worcester, Mass

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## Pressure to Publish in the Premedical Years

To the Editor: Many premedical students seek experience assisting with biomedical research. For some, a summer doing research is a way of bringing career plans into greater focus. For many students, however, their minds have been made up; they want to go to medical school, and they are keenly aware

that doing research on a medical school campus can help them achieve that goal.

Letters of recommendation from academic physicians and biomedical researchers are valuable currency in the competitive pursuit of gaining admission to medical school. Moreover, for a few volunteers, research can lead to coauthorship on a journal article. After research grant money, publications carry more weight in academic medical centers than virtually any other marker of accomplishment. That message is broadcast so loudly that it now resonates on the undergraduate campus.

In an era of \$300 per hour SAT (Scholastic Aptitude Test) tutors,<sup>1</sup> the aggressive pursuit of impressing admissions committees comes as no surprise. Nevertheless, I recently received a curriculum vitae (CV) that seemed to set a new standard for prolific achievement in biomedical research by a young adult. This 20-year-old college student had 11 publications listed on his CV, most of which addressed the surgical management of a type of cancer. Some were published when the author was 16 years old.

Ten of the 11 articles included another author, usually the senior author, with the same last name. That a well-connected family member engaged in medical research might want to help a young student strengthen his or her CV, irrespective of the student's actual contribution to the research, is understandable although lamentable. That a medical school admission committee might actually be impressed by such distortion is troubling.

The pressure to "publish or perish" in higher education pushes faculty to generate new knowledge. This pressure should not, however, be visited on college students who have not even completed basic premedical course work. For the undergraduate who ultimately attends medical school, there will be plenty of time to publish research if doing so becomes a genuine career interest. Most physicians, however, ultimately pursue a career in taking care of patients.

The message to premedical students from medical schools should be clear and consistent: participating in biomedical research for the sake of impressing admission committees is probably a mistake. Rather, demonstrating passion, commitment, and integrity in academics and extracurricular pursuits is impressive and will be rewarded.

Ware G. Kushner, MD  
Stanford University School of Medicine  
Stanford, Calif

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## RESEARCH LETTER

### Human Papillomavirus Antibody and Risk of Prostate Cancer

To the Editor: Human papillomavirus type 16 (HPV 16) is the HPV type most frequently detected in human cancers and is associated with an increased risk of cervical and lower ano-

genital tract tumors. Some researchers have speculated that HPV infection may play a role in prostate cancer, a common malignancy among men, based on an association of this cancer with sexual activities.<sup>1</sup> However, studies of HPV 16 DNA in prostate cancer tissues have shown inconsistent results.<sup>2,3</sup>

**Methods.** The association of prostate cancer risk with the presence of HPV 16 antibody was examined in a nested case-control study within the Child Health and Development Study cohort, which enrolled members of the Kaiser Foundation Health Plan residing in the Oakland, Calif, area between 1959 and 1966.<sup>4</sup> Cancer cases were identified from more than 13 000 men in this cohort by linkage with the California Cancer Registry through October 1993 (estimated to have been 97% and 75% complete, statewide, through 1991 and 1992, respectively). There were 48 incident prostate cancer cases, from the time of enrollment through October 1993, occurring an average of 26 years (range, 12-32 years) after enrollment. Control subjects were 63 men in the cohort who had been cancer-free as of October 1993, frequency matched with cancer cases by decade of birth (mean age at enrollment was 36 years) and race (53% white, 36% black, 3% Hispanic, and 8% other). Presence of HPV antibody in stored serum samples (obtained by phlebotomy at time of enrollment) was determined in 1998 using an enzyme-linked immunosorbent assay (ELISA) against HPV 16 viruslike particles as previously described.<sup>5</sup> Optical density (OD) of 1.017 or greater was considered positive and OD less than 0.904 was considered negative. Indeterminate values ( $0.904 \leq OD < 1.017$ ) were excluded from the analysis. The relative risk of prostate cancer was estimated by the odds ratio (OR) and 95% confidence intervals (CIs) from multiple logistic regression analysis.

**Results.** Overall, 20 (42%) of 48 cancer subjects and 19 (30%) of 63 control subjects were HPV 16 antibody positive. The prevalence of HPV 16 antibody was not significantly different by race/ethnic groups. Because few cancer cases ( $n = 4$ ) were of race other than white or black, individuals of other races were excluded from the analysis. With adjustment for age at serum sampling and race, HPV 16 antibody positivity was marginally associated with an increased risk of prostate cancer (OR, 2.7; 95% CI, 0.9-7.9). The association remained unchanged with additional adjustment for educational level and smoking status.

**Comment.** The presence of antibody to HPV 16 has been associated with an increased risk of cervical cancer in the present study cohort (M.H. et al, unpublished data). An increase in prostate cancer risk among subjects with

HPV 16 antibody compared with those without the antibody is consistent with the recent report by Dillner et al,<sup>6</sup> in which a 2.4-fold risk (95% CI, 0.8-7.6) increase was reported. However, the results from these prospective studies conflict with the results from case-control studies that failed to detect an association.<sup>2,5</sup> Furthermore, we may have underestimated the prevalence of HPV infection in both subjects and controls, because infections that occurred after phlebotomy would have been missed. The role of HPV infection in the etiology of prostate cancer warrants further investigation, with serial measurements of antibody levels in a prospective study.

Michie Hisada, MD, MPH, ScD

Charles S. Rabkin, MD, MSc

National Cancer Institute

Bethesda, Md

Howard D. Strickler, MD, MPH

Albert Einstein College of Medicine

Bronx, NY

William E. Wright, PhD

Department of Health Services

Sacramento, Calif

Roberta E. Christianson, MS

Bea J. van den Berg, MD

Child Health and Development Studies

Berkeley, Calif

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## CORRECTION

**Transposed Data:** In the Original Contribution titled "Cost-effectiveness of Vaccination Against Pneumococcal Bacteremia Among Elderly People," published in the October 22/29, 1997, issue of THE JOURNAL (1997;278:1333-1339), several rows of data in Table 3 on page 1337 were transposed. Entries for "No vaccination" and "Vaccination" in the column "Total Effectiveness (Quality-Adjusted Life-Years)" were reversed for the following: "Age  $\geq 65$  y," "Metropolitan Atlanta, Ga," and "Monroe County, New York." Figures in all other columns were correct as printed.