

## Women and Bladder Cancer

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To read first hand accounts of women dealing with bladder cancer, see our "Tales from the Trenches", "Women, neobladders and Hypercontinence" and "Trench Talk"

Update Feb. 2006:

Menopausal status as well as age at menopause may modify the risk of women developing bladder cancer, researchers suggest in the American Journal of Epidemiology.

The risk in men is greater than that in women. Hormonal factors may be involved, say the Boston-based investigators, because "gender differences in cigarette smoking patterns, occupational exposures and other differences in known risk factor distributions cannot explain the excess bladder cancer observed for males."

Monica McGrath and colleagues from Brigham and Women's Hospital and Harvard Medical School used the Nurses' Health Study to examine hormonal and reproductive factors in relation to bladder cancer risk in women.

During 26 years of follow up, 336 women developed bladder cancer. Compared with pre-menopausal women, those past menopause were nearly twice as likely to develop the cancer.

The team also observed a significant increase in bladder cancer risk with earlier menopause (age 45 years or less) compared with later menopause (age 50 years or more). However, this association was influenced by cigarette smoking status.

The investigators point out that the drop in estrogen levels with menopause has been associated with bladder dysfunction and frequent urinary tract infections.

It may be "that women who experience early menopause are at an increased risk of bladder cancer because they have recurrent urinary tract infections and concurrent inflammation starting at an earlier age."

Because inflammation and cigarette smoking are likely to act together to increase risk, this hypothesis would also explain the strong interaction with smoking, according to the team.

Hormonal and reproductive factors and the risk of bladder cancer in women. McGrath M, Michaud DS, De Vivo

I.Department of Epidemiology, Harvard School of Public Health, Boston, MA.Am J Epidemiol. 2006 Feb 1;163(3):236-44.PubMed Abstract

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On this page: comparative survival

smokers trends hair dyes water nitrates early menopause

Increased risks?

Bladder cancer is considered to be primarily a disease of older, white males and relatively rare in women, however, the prevalence of bladder cancer in women is comparable to that of GYN cancers which are not considered rare:

Prevalence of

Women with bladder cancer - 143,000

Women with ovarian cancer - 162,000

Women with cervical cancer - 189,000

US Seer cancer statistics:

It is estimated that more American women will die of bladder cancer than of cervical cancer in 2006. (seer, table 22)

UK statistics:

2004: 2925 new cases and 1,631 bladder cancer deaths in UK females.For that same year the statistics showed that 2,726 new cases of cervical cancer occurred, causing 1,061 deaths. Vulvar cancer is diagnosed in 1,022 women, with 380 deaths each year in the UK. Uterine cancer killed women in 2005 and vaginal cancer claimed 100 lives.

Cancer Statistics registrations: registrations of cancer diagnosed in 2004, England. Series MB1 no.35

Men with bladder cancer outnumber women by 3 or 4 to 1. The overall 5-year survival rate for women with bladder cancer is 78 percent, which is equivalent to the 10-year survival rate in men. The 10-year survival rate in women, 69 percent, is equivalent to the 15-year survival rate in men. This means that women with bladder cancer survive 5 years less than men. Delay in treatment appears to be correlated with a disproportionately higher death rate among women with bladder cancer, who are diagnosed 6 to 9 months later than men. 1

A common scenario: a woman goes to her primary care physician or GYN complaining of blood in the urine that turns it red or rusty colored, pain during urination, frequency, or feeling the need to urinate but nothing comes out. The most common assumption is that she has a urinary tract infection, courses of antibiotics may follow.

Consider the following information:

It is estimated that 12,400 Americans will die of bladder cancer in 2001. Females are approximately twice as likely as males to die from the disease. A greater percentage of females are diagnosed at more advanced stages than men, which may contribute to the higher case mortality rate in women.

In addition to relative delays in diagnoses among women, other factors contributing to the higher death rate may include the higher portion of nontransitional cell cancer histologies (rare cell types) that occur in women, i.e.: adenocarcinoma, small cell carcinoma, squamous cell carcinoma; the relative thinness of the elderly adult female bladder (perhaps permitting more rapid extravascular spread); possible differences in the relative proportion of higher grade transitional cell carcinomas between men and women; and the older median age at presentation in women than men.<sup>2</sup>

Experts from the Departments of Urology and Pathology, University of Miami, recently published an article which has caught the attention of women with bladder cancer:

"We reviewed our radical cystectomy series to determine whether the majority of patients present with muscle invasive bladder cancer. The records of 184 radical cystectomies performed by 1 surgeon from 1992 to 1999 were reviewed, and all slides of presenting pathology were reviewed by 1 pathologist.... Women were more likely to be diagnosed with muscle invasion primarily than men (85.2% and 50.7%, respectively)...We support the suggestion that therapeutic gains might follow from improved education regarding the signs and symptoms associated with bladder cancer, with enhanced focus on women and consideration of screening methods for those at high risk for bladder cancer."<sup>3</sup>

Women smokers may face higher bladder cancer risk.

Researchers at the University of Southern California/Norris Cancer Center reported that women may actually be more susceptible to the bladder carcinogens in cigarette smoke, suggesting that the incidence of bladder cancer may eventually be higher in women than in men. When men and women smoked at comparably high levels, the risk of bladder cancer among women was 30% to 50% higher. Women now account for 39% of smoking-related deaths in the US, double the rate in 1965. There was no difference in the risk of bladder cancer among users of filtered versus nonfiltered cigarettes, low-tar versus higher tar cigarettes, or heavy versus light inhalers.<sup>4</sup>

A similar study conducted in Europe concluded that the risk of bladder cancer increased with the duration of smoking, ranging from approximately a two-fold increased risk for a duration of less than 10 years to over a four-fold increased risk for a duration of greater than 40 years. An immediate decrease in risk of bladder cancer was observed for those who gave up smoking. This decrease was over 30% in the immediate 1-4 years after cessation.<sup>5</sup>

When women and men smoke at comparably high levels, women's bladder cancer risk is 30 to 50 percent higher. Society for Women's Health Research

Alarming rise' in female bladder cancer seen in UK

The incidence of disease is increasing (approximately 60% during the last 3 decades), and inexplicably it is rising more rapidly among young female cohorts in a fashion not clearly related to tobacco use.

"Between 1971 and 1998 directly age standardized incidence increased by 16% in males and 37% in females...Unusually, women have a significantly lower survival rate than men. Reasons for these patterns and trends are

unclear. The trends in bladder cancer incidence by birth cohort suggest that the relationship with smoking may not be that strong and that other factors may be involved. Further research should focus on reasons for the recent increase in bladder cancer incidence in younger female birth cohorts." Current trends in bladder cancer in England and Wales. Hayne D, J Urol. 2004 Sep;172(3):1051-5. Abstract

#### Use of Hair Dye increases risk of bladder cancer

Women who used permanent hair dyes at least once a month experienced a 2.1-fold risk of bladder cancer relative to non-users. Risk increased to 3.3 among regular (at least monthly) users of 15 or more years. The trend applied mainly to those using the darker colored dyes such as dark brown and black. Subjects who worked for 10 or more years as hairdressers or barbers experienced a 5-fold increase in risk compared to individuals not exposed.<sup>6</sup>

#### Water nitrates increase risk of bladder cancer in women.

Women who drank tap water that contained levels of nitrates below the maximum level of 10 mg/L as set by the Environmental Protection Agency were still nearly three times more likely to develop bladder cancer than those who consumed lower levels of nitrates, according to a University of Iowa study. The researchers examined nearly 22,000 Iowa women aged 55 to 69 years who had used the same water for more than 10 years. Researchers found that bladder cancer risk rose along with nitrate levels in the community drinking water regardless of factors such as smoking or vitamin C and E intake. They also found a higher risk of ovarian cancer associated with the contaminated water.<sup>7</sup>

The National Cancer Institute has come to the following conclusion in its report: Bladder Cancer Screening: "There is insufficient evidence to determine whether a decrease in mortality from bladder cancer occurs with hematuria testing, urinary cytology testing, or a variety of other tests on exfoliated urinary cells or other urinary substances."<sup>2</sup>

In other words, it isn't considered cost effective (will it save lives in the long run) to check for cancer when blood in the urine is first detected.

Blood in the urine may have many different causes, but the possibility of bladder cancer should not be ignored, no matter the age or sex of someone presenting with symptoms. All people who have visible blood in the urine should be considered to have bladder cancer until proven otherwise. Because hematuria can come and go, a negative result on urinalysis cannot exclude the diagnosis of bladder cancer.<sup>8</sup>

#### Early Menopause increases risk of bladder cancer

After factoring in age and smoking, data has shown that the likelihood of developing bladder cancer may go up as a woman's age at menopause goes down. The odds of bladder cancer were 32 percent higher for women who reached menopause between 43 and 47 years, compared with women who reached menopause at age 48 or later. The risk was 60 percent higher for women who were menopausal at 42 or younger. These associations were the same whether menopause occurred naturally or as a result of surgery. The chances of developing bladder cancer were not linked to any other reproductive factor, including age when periods began, age at first birth, number of births, hormone replacement therapy use, infertility, fibroids, ovarian cysts or endometriosis.

In addition, women with a history of bilateral oophorectomy had an increased risk of bladder cancer compared with those who did not undergo bilateral oophorectomy

It has been suggested that the drop in estrogen after menopause "could lead to an increased number of urinary tract infections associated with bladder cancer," researcher Dr. A.E. Prizment reported. "This may explain why we observed associations between bladder cancer and only those reproductive factors which were related to menopause."

However, Prizment added: "It is too early to make any definite conclusions since the biological mechanism of this association is unclear."<sup>9</sup>

Related pages on WebCafe:

Trench Talk: where real people share experiences:

Women and Blood in the Urine ;

Women, bladder cancer and The Change

Delays in Diagnosis (M/F)

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