SEX and GENDER HEALTH COLLABORATIVE of the American Medical Women's Association

Sex and Gender Differences
Bladder Cancer

EPIDEMIOLOGY

- Women diagnosed at a more advanced stage
- Women with higher risk of recurrence and progression
- Women with higher mortality

- 3-4x more common in men than women
- 2nd most prevalent cancer in middle-aged and elderly men
- 25% more rapidly growing incidence in men

CARCINOGEN-DEGRADING METABOLIC ENZYMES

- Sex-differences in hepatic enzymes (UGT) may explain differences in carcinogen degradation
- Variations in degradation results in differential exposure of carcinogens to urothelium

ALTERATIONS IN MICROORGANISMS

- Sex differences in urinary microorganisms exist
- Microorganisms vary in those with and without cancer
- Type of microorganism present may link to tumorigenesis through:
  - Induction of chronic inflammation
  - Stimulation of cell proliferation

STEROID PATHWAYS

Hormones in Women

- Increased bladder CA risk among postmenopausal compared to premenopausal women
- Older age at menarche, parity, and use of estrogen and progestin therapy associated with lower CA risk

Hormones in Men

- Androgen receptor expression decreases with increasing pathological bladder tumor stage
- Loss of expression of 5-alpha-reductase (conversion of testosterone --> DHT) has been detected in bladder CA

GENDER BIAS IN ASSESSMENT OF HEMATURIA

- Time from hematuria evaluation to cancer diagnosis is longer in women
- Diagnostic delay leads to significantly higher risk of mortality
- Women are less likely to :
  - Be referred to a urologist
  - Undergo abdominal or pelvic imaging
  - Undergo a complete and timely evaluation

OUTCOME

- Women have worse outcomes across all stages of disease
- Women with bladder cancer have higher mortality
- No sex disparity in the use of radical cystectomy as treatment has been found

To Learn More or Get Involved
Visit us at ***amwa-doc.org/sghc*** or email us at ***sghcstudents@amwa-doc.org***

Source: Laura W. Bush Institute for Women's Health, *Sex & Gender Specific Health Learning Module*
sexandgenderhealth.org