

Otterbein University

Digital Commons @ Otterbein

Nursing Student Class Projects (Formerly MSN)

Student Research & Creative Work

Summer 7-27-2017

Prostate Cancer in African American Men

Chinwe Egwudo

Otterbein University, chinwe.egwudo@otterbein.edu

Follow this and additional works at: https://digitalcommons.otterbein.edu/stu_msn



Part of the [Nursing Commons](#)

Recommended Citation

Egwudo, Chinwe, "Prostate Cancer in African American Men" (2017). *Nursing Student Class Projects (Formerly MSN)*. 248.

https://digitalcommons.otterbein.edu/stu_msn/248

This Project is brought to you for free and open access by the Student Research & Creative Work at Digital Commons @ Otterbein. It has been accepted for inclusion in Nursing Student Class Projects (Formerly MSN) by an authorized administrator of Digital Commons @ Otterbein. For more information, please contact digitalcommons07@otterbein.edu.

Prostate Cancer in African American Men

Chinwe Egwudo, RN, BSN, OCN
Otterbein University, Westerville, Ohio

Introduction

Prostate cancer originates in the tissues of the male prostate gland. It is the second most diagnosed cancer in men in the United States (after skin cancer) and the sixth leading cause of death in the world, although the cause is not quite understood, although genetic, hormonal and environmental factors are considered.

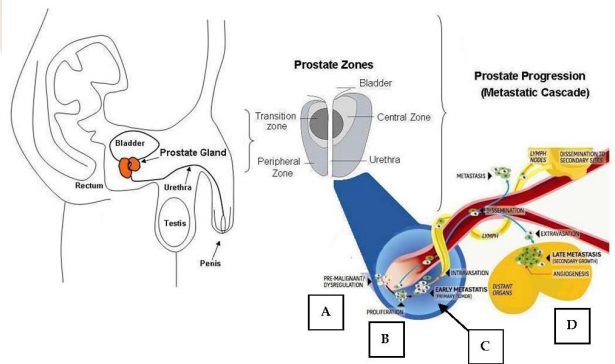
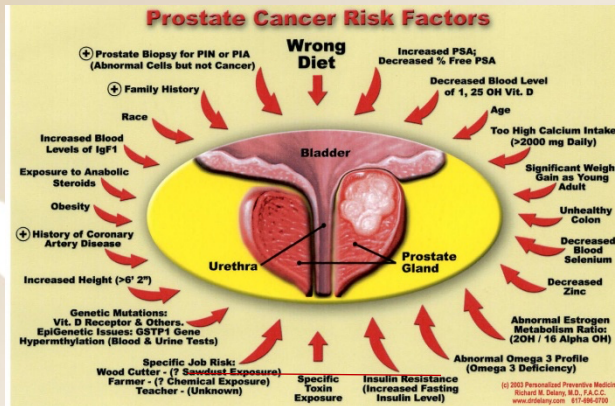
American Cancer Society estimates that about 1 in 7 men will develop prostate cancer with 161,360 new cases and 26,730 deaths from PC in 2017 (American Cancer Society, 2016). Prostate cancer comes with racial disparity.

According to US Department of Health and Human Services, African American men have higher incidence and greatest mortality from prostate cancer than other ethnic groups in the US. It is usually diagnosed in middle to older age. Prostate cancer is usually slow growing and is treatable when caught early. Study shows that more African American men are concerned about cost, length and impact of treatment, and this as a result affects outcome,

Signs and Symptoms

The prostate gland changes as a man ages. These changes which include developing prostate cancer can present with symptoms. Very early stage of prostate cancer does not usually present with symptoms and when they eventually show, they arise from bladder outlet obstruction;

- slow urinary stream,
- Hesitancy or trouble starting the flow
- Frequency especially at night
- dysuria and incomplete emptying of bladder
- Pain or burning with urination
- local invasion of prostate cancer can obstruct ureter or bowel.
- Symptoms of late disease can be pain at the site of metastasis like bone pathologic fracture, liver enlargement, or altered mental status from brain metastasis



Pathophysiology and significance of pathophysiology

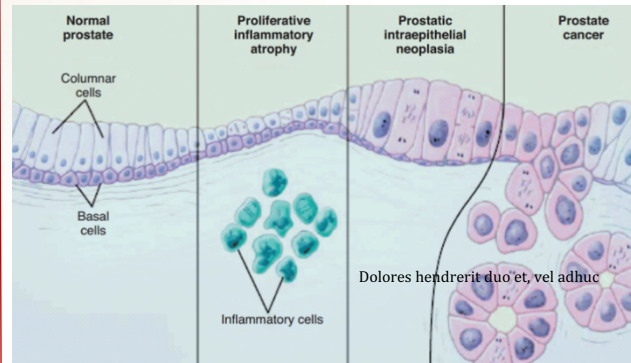
Typical aging process include changes to the prostate gland. Adenocarcinoma (type of cancer that develops in the gland cells) is the most common type of prostate cancer.

Prostate cancer develops when there is uncontrolled tumor growth due to inequity in the rate of cell division and cell death

Most prostate cancer are multifocal; 70% from peripheral zone, 15-20% from central zone, 10-15% from transitional zone and 4% from urothelial lining.

Hormonal causes have been postulated because androgen deprivation causes regression of pc and eunuchs do not develop adenocarcinoma of the prostate.

According to Myers et al (2017), 'the contribution of tumor biology is underexplored due to inadequate availability of African-American patient-derived cell lines and specimens'. Their study shows that expression of beta-catenin and caveolin-1 (genes) may be prostate cancer and race specific. It has a striking racial health disparity. More African Americans get diagnosed at a younger age than other races. African American men present with higher grade tumor that is more advanced and aggressive. Gene and microRNA profiling of African American and Caucasian American tumor demonstrated racial variation.



Literature review by Gokce et al (2017) found that "Epigenetic DNA alterations, chromosomal alterations, and

gene expression profile alterations have been identified as factors associated with racial disparities".

Nursing implications

The most common site of metastasis for prostate cancer is the bone, lymph node, lung liver and brain. Bone metastasis causes bone pain, impaired mobility, cord compression, pathological fracture, hypercalcemia. The nurses' understanding facilitates care and better outcome.

More advanced stage of prostate cancer causes acute urinary obstruction. Nursing care and concern focus on providing patient with accurate and timely information need to make informed decision about treatment, promoting comfort and managing complications from disease process.

According to USPSTF, African American men should be educated on their increased risk as well as potential benefits and harms of screening, so that they can make informed personal decision. Rice et al (2017) believes that knowledge of prostate cancer and screening tests helps men to initiate or participate in informed decision making in prostate cancer screening. They suggested a need for community and clinic based approach to improved risk comprehension in African Americans. So nurses continues to be teachers and advocates.

Conclusion

Prostate cancer is a disease of the male prostate gland. The gland changes with advanced age. Part of this change includes cancer development. Most men, if lived long enough, will develop prostate cancer.

There is racial disparity with prostate cancer, making African American men more at risk than any other race. Studies have shown that genetic make up can play a role in this health and racial disparity.

African American men are more at risk for developing prostate cancer and the more aggressive kind. It is suggested that African Americans should be aware of this difference and therefore increased education and awareness will help them make informed decision about testing and treatment, leading to better outcomes.

References

- Rice, L. J., Jefferson, M., Briggs, V., Delmoor, E., Johnson, J. C., Gattioni-Celli, S., ... Halbert, C. H. (2017). Discordance in perceived risk and epidemiological outcomes of prostate cancer among African American men. *Preventive Medicine Reports*, 7, 1-6. <http://doi.org/10.1016/j.pmedr.2017.04.010>
- Chen, R. C. R. (2017). *JAMA: The journal of the American medical association: Association between choice of radical prostatectomy, external beam radiotherapy, brachytherapy, or active surveillance and patient-reported quality of life among men with localized prostate cancer.* American Medical Association. doi:10.1001/jama.2017.1652Gish, B., Chovan, J., & Cacchillo, J. (2014). You may refer your readers to other materials as additional sources. And take the best use.
- Draft Recommendation Statement: *Prostate Cancer: Screening.* U.S. Preventive Services Task Force. April 2017. <https://www.uspreventiveservicestaskforce.org/Page/Document/draft-recommendation-statement/prostate-cancer-screening1>
- American Cancer Society (2017) <https://www.cancer.org/treatment/understanding-your-diagnosis/tests.html> Retrieved July 27, 2017 from <http://1.bp.blogspot.com/-a4f5USBrA/UUNqELeYl/AAAAAAATbA/Er6zgtgufy0/s1600/Prostate-Cancer-Risk-Factors.jpg>
- Myers, J. S., Vallega, K. A., White, J., Yu, K., Yates, C. C., & Sang, Q.-X. A. (2017). Proteomic characterization of paired non-malignant and malignant African-American prostate epithelial cell lines distinguishes them by structural proteins. *BMC Cancer*, 17, 480. <http://doi.org/10.1186/s12885-017-3462-7>
- Wang, B.-D., Ceniccola, K., Hwang, S., Andrawis, R., Horvath, A., Freedman, J. A., ... Lee, N. H. (2017). Alternative splicing promotes tumour aggressiveness and drug resistance in African American prostate cancer. *Nature Communications*, 8, 15921. <http://doi.org/10.1038/ncomms15921>
- Gökce, M. I. M. (06/2017). Prostate cancer and prostatic diseases: Is active surveillance a suitable option for african american men with prostate cancer? A systemic literature review. Stockton Press. doi:10.1038/pcan.2016.56
- Cancer Treatment Center of American, retrieved July 27, 2017 from <http://www.cancercenter.com/prostate-cancer/types/>
- Ji, G. G. (2017). BioMed research international: Are the pathological characteristics of prostate cancer

Draft Recommendation Statement: *Prostate Cancer: Screening.* U.S. Preventive Services Task Force. April 2017. <https://www.uspreventiveservicestaskforce.org/Page/Document/draft-recommendation-statement/prostate-cancer-screening1>

American Cancer Society (2017) <https://www.cancer.org/treatment/understanding-your-diagnosis/tests.html> Retrieved July 27, 2017 from <http://1.bp.blogspot.com/-a4f5USBrA/UUNqELeYl/AAAAAAATbA/Er6zgtgufy0/s1600/Prostate-Cancer-Risk-Factors.jpg>

Myers, J. S., Vallega, K. A., White, J., Yu, K., Yates, C. C., & Sang, Q.-X. A. (2017). Proteomic characterization of paired non-malignant and malignant African-American prostate epithelial cell lines distinguishes them by structural proteins. *BMC Cancer*, 17, 480. <http://doi.org/10.1186/s12885-017-3462-7>

Wang, B.-D., Ceniccola, K., Hwang, S., Andrawis, R., Horvath, A., Freedman, J. A., ... Lee, N. H. (2017). Alternative splicing promotes tumour aggressiveness and drug resistance in African American prostate cancer. *Nature Communications*, 8, 15921. <http://doi.org/10.1038/ncomms15921>

Gökce, M. I. M. (06/2017). Prostate cancer and prostatic diseases: Is active surveillance a suitable option for african american men with prostate cancer? A systemic literature review. Stockton Press. doi:10.1038/pcan.2016.56

Cancer Treatment Center of American, retrieved July 27, 2017 from <http://www.cancercenter.com/prostate-cancer/types/>

Ji, G. G. (2017). BioMed research international: Are the pathological characteristics of prostate cancer



OTTERBEIN
UNIVERSITY