Lehigh Valley Health Network
LVHN Scholarly Works

Department of Medicine

Prolaris Score Prediction of Adverse Pathology Following Radical Prostatectomy

Sarah Azari
Lehigh Valley Health Network, Sarah.Azari@lvhn.org

Michael Su
Lehigh Valley Health Network, Michael.Su@lvhn.org

Benjamin Croll MD
USF MCOM- LVHN, Benjamin.Croll@lvhn.org

Joseph Feliciano MD
Lehigh Valley Health Network, Joseph_R.Feliciano@lvhn.org

Angelo A. Baccala MD
Lehigh Valley Health Network, angelo_a.baccala@lvhn.org

Follow this and additional works at: https://scholarlyworks.lvhn.org/medicine

Published In/Presented At

Azari, S. Su, M. Croll, B. Feliciano, J. Baccala, A. (2019, October 24-26). *Prolaris Score Prediction of Adverse Pathology Following Radical Prostatectomy*. Poster Presented at: Mid-Atlantic Section Meeting of the American Urological Association, Pocono Manor, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

Prolaris Score Prediction of Adverse Pathology Following Radical Prostatectomy

Sarah Azari, Michael Su, Benjamin Croll, MD, Joseph Feliciano, MD and Angelo Baccala, MD

Lehigh Valley Health Network, Allentown, Pa.

Introduction

- Cell Cycle Progression (CCP) score, or the Prolaris score, has been shown to independently predict cancer related death, biochemical recurrence, and metastases in patients with prostate cancer[1,2]
- The association between CCP score and adverse pathology after radical prostatectomy has not yet been evaluated

Methods

- Patients who had received CCP testing and undergone radical prostatectomy between 2015 and 2018 were assessed for adverse pathology
- Adverse pathology was defined as any of the following:
  - post-operative Gleason score of 8 or greater
  - positive lymph nodes
  - extracapsular extension (stage pT3a) or seminal vesicle invasion (stage pT3b)
- Positive surgical margins were assessed as a secondary objective
- Exclusion criteria: no CCP testing or CCP results not in our records
- Logistic regression was performed using SPSS to ascertain the relationship between CCP score with adverse pathology and positive margins.

Results

- 173 patients met inclusion criteria, of which 53 demonstrated adverse pathology
- Patients from most American Urologic Association risk categories were represented, with the majority being intermediate risk (Table 1)
- The number of patients with lymph node involvement, Gleason stage of 8 or higher, extracapsular extension, and seminal vesicle invasion is shown in Table 2
- Based on binary logistic regression testing, CCP was positively associated with adverse pathology, with an odds ratio per 1 CCP units of 3.246 ($p<0.001$)
- There was not a significant relationship between CCP score and positive margins.

Table 1: Breakdown of patients by American Urologic Association risk category

Low	28	16.18%
Intermediate	110	63.58%
High	32	18.50%
High/Very high	2	1.16%
Not found	1	0.58%

Table 2: Patients with adverse pathology

Positive lymph nodes	1	0.58%
Gleason stage of 8 or greater	13	7.51%
Extracapsular extension	32	18.39%
Seminal vesicle invasion	14	8.05%

Conclusions

- CCP scores are positively correlated with adverse pathology after radical prostatectomy
- CCP may be a useful tool to predict adverse pathology
- This information may help men with low risk prostate cancer make a more educated decision regarding active surveillance versus immediate therapy
- Further analysis adjusting for patient risk should be done to confirm these results.

References

[1]Cuzick, J., et al. (2011). "Prognostic value of an RNA expression signature derived from cell cycle proliferation genes in patients with prostate cancer: a retrospective study." The Lancet Oncology 12(3): 245-255.

[2]Bishoff, J. T., et al. (2014). "Prognostic Utility of the Cell Cycle Progression Score Generated from Biopsy in Men Treated with Prostatectomy." The Journal of Urology 192(2): 409-414.

© 2019 Lehigh Valley Health Network

LVHN.org

Lehigh Valley Health Network