

A0145: Bladder EpiCheck in clinical decision making in the follow up of non muscle invasive bladder cancer

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| Event | 37th Annual EAU Congress, Abstract Session 09 - NMIBC early diagnosis and improvement of endoscopic management |
| Topic | Urothelial Cancer, NMIBC - Follow up, Markers |

Introduction & Objectives

Based on EAU Guidelines, surveillance in non muscle invasive bladder cancer (NMIBC) is based on cystoscopy an inconvenient and invasive test complemented by urine cytology a highly specific but poorly sensitive test. For the first time, EAU Guidelines 2021 suggest the alternative of using biomarkers for the follow up in patients that decline these tests. The purpose of this analysis is to find out how using Bladder EpiCheck, cytology and recent grade history can improve clinical decision making in NMIBC surveillance. We also explore the value of a quantitative result (EpiScore) in clinical decision making.

Materials & Methods

Analysis of the Bladder EpiCheck European validation multicenter study with 657 patients [1],[2]. We analyzed PPV, sensitivity and NPV of the combination of EpiCheck, cytology and recent grade history, to find out their additive value and implication of a positive and a negative result in different scenarios.

[1] Witjes JA et al. Eur Urol Oncol 2018;1:307-13. [2] Lozano et al. Poster 709 presented at EAU 2019

Results

- A positive EpiCheck had a higher positive predictive value with rising EpiScore, regardless of the grade of the recurrence (Figure 1.1) especially when EpiScore was >90 (Figure 1.2). Overall recurrence rates were similar among patients with recent history of TaLG and HG, but HG recurrence rates and PPV were higher in patients with recent history of HG disease.
- EpiCheck had significantly higher sensitivity than cytology in all groups, which translated to higher NPV. The combination of cytology and EpiCheck improved sensitivity but had a marginal effect on NPV. (figure 1.3)

Conclusions

- A positive EpiCheck always signals high risk of all recurrences and high-grade recurrences.
- HG recurrence risk rises with the combination of recent history of HG and higher EpiScore.
- EpiCheck had consistent high sensitivity and NPV for HG recurrence, and could be used as a standalone tool to rule out the presence of HG recurrence.
- In subjects with low risk NMIBC, or other clinical concerns against invasive procedures, the combination of EpiCheck and cytology might be useful.

Figure 1. PPV by positive EpiScore

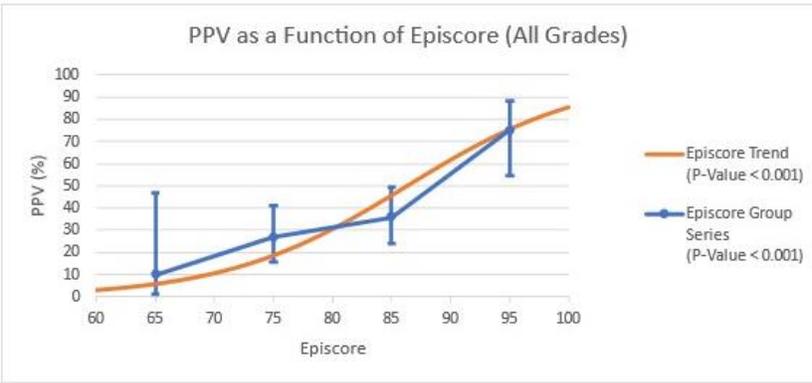


Figure 2. PPV and High-grade PPV by risk group, EpiCheck and cytology

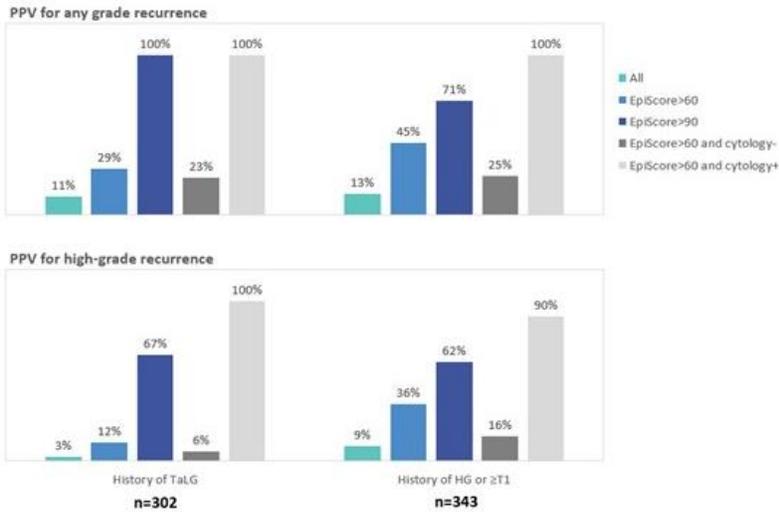


Figure 3. Sensitivity and NPV by risk group, EpiCheck and cytology

