The Impact of Low- vs. High-intensity Surveillance Cystoscopy on Surgical Care and Cancer Outcomes in Patients with High-risk Non-muscle-invasive Bladder Cancer

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Bladder cancer is the 3rd most prevalent non-cutaneous cancer among Veterans.

Non-muscle invasive bladder cancer (NMIBC) accounts for 70-80% of diagnoses.

High-risk lesions at 5 years have up to:
- 80% risk of recurrence
- 50% risk of progression
Study Purpose

American Urological Association
Cystoscopy 3-4 months for first 2 years

Expert Opinion
Minimal Scientific Evidence

Is this intensity necessary?

Methods

- **Retrospective cohort study:**
  - Department of Veterans Affairs (VA) patients
  - Diagnosed with high-risk NMIBC 2005 – 2011 with follow up through 2014

Final analysis sample = 1,542
Frequency of Surveillance

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>4</th>
<th>8</th>
<th>12</th>
<th>16</th>
<th>20</th>
<th>24 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Up to 5.5</td>
<td>At least 5.5, up to 9.5</td>
<td>At least 9.5, up to 13.5</td>
<td>At least 13.5, up to 17.5</td>
<td>At least 17.5, up to 21.5</td>
<td>Over 21.5</td>
</tr>
</tbody>
</table>
Low-Intensity Surveillance  
33.7% (n=520)  

High-Intensity Surveillance  
66.3% (n=1,022)  

Outcomes  

- # of Transurethral Resections  
- # of Resections with cancer in Specimen  
- Progression to Bladder Cancer Death
Number of Transurethral Resections

- Low-Intensity Surveillance
- High-Intensity Surveillance

Number of resections per 100 person years

Bar chart showing a higher number of resections in High-Intensity Surveillance compared to Low-Intensity Surveillance.
Progression to Bladder Cancer Death

Ta: Low 5.8% vs. High 8.3%, p=0.27
Progression to Bladder Cancer Death

\[ \text{Ta: Low 5.8\% vs. High 8.3\%, } p=0.27 \]

\[ \text{T1: Low 9.6\% vs. High 8.3\%, } p=0.75 \]
Summary

• Low-intensity surveillance is associated with:
  – Fewer transurethral resections
  – No increased risk of bladder cancer death
Limitations

• Observational study with unobserved confounding
  – Why did some high-risk patients undergo low intensity surveillance?

• Performing less surveillance for high-risk NMIBC CANNOT be recommended at this time
Implications

- Low-intensity surveillance may be reasonable for high-risk NMIBC

- A trial is needed to assess whether decreased surveillance frequency in high-risk NMIBC is safe
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Discussion Points

• Patients do not like cystoscopy

Quote from patient focus group:
“There’s a lot of anxiety associated with it [referring to cystoscopy].”

Discussion Points

• Cystoscopy is associated with substantial discomfort and anxiety

• Survey of 382 bladder cancer patients
  – 30% reported major discomfort with cystoscopy
  – 41% reported anxiety with cystoscopy