INDEXING ATYPICAL CYTOLOGY TO NMP22 DECREASES FALSE-POSITIVE RESULTS
Rupesh Raina*, Heather Klepacz, Lee Ponsky, Shashikala Sharma, David R Nelson, Ashok Agarwal, Craig D Zippe, Cleveland, OH

Introduction and Objectives:
To assess atypical cytology as a positive bladder tumor marker and to determine if indexing atypical cytology to NMP22 can decrease false-positive results [or increase the positive predictive value (PPV)].

Methods:
One hundred ninety-seven patients at risk for bladder cancers were identified as having atypical urine cytology. One hundred twenty six were incident (screening) cases and 71 were prevalent (monitoring) cases of bladder cancer. Office cystoscopy was performed on all patients with atypical cytology. All cancers were histologically confirmed and patients had a negative upper tract study within a 12-month interval. The atypical cytologies were then indexed to NMP22 values in an effort to decrease false-positive results.

Results:
In the screening cases, the 126 atypical cytologies detected 17 cancers for a positive predictive value (PPV) of 13% (17/126). When stratified by NMP22, cutoff value of >10U/ML, PPV increased to 71% (15/21). In the monitoring cases, the 71 atypical cytologies detected 43 cancers for a PPV of 61% (43/71). When stratified by NMP22 cutoff >6U/ML, PPV increased to 92% (35/38) (see table).

Conclusions:
The clinical utility of atypical cytology was significantly enhanced in both screening and monitoring for bladder cancer when indexed to NMP22.

<table>
<thead>
<tr>
<th>Atypical Cytology (n = 197)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[64% (126/197)]</td>
</tr>
<tr>
<td>Positive NMP</td>
</tr>
<tr>
<td>17% (21/126)</td>
</tr>
<tr>
<td>CA</td>
</tr>
<tr>
<td>71% (15/21)</td>
</tr>
</tbody>
</table>

Source of Funding: NONE
Disclosures (by author):
Rupesh Raina - No Disclosure Necessary
Heather Klepacz - No Disclosure Necessary
Lee Ponsky - No Disclosure Necessary
Shashikala Sharma - No Disclosure Necessary
David R Nelson - No Disclosure Necessary
Ashok Agarwal - No Disclosure Necessary
Craig D Zippe - No Disclosure Necessary