Reviewer’s report

Title: Clinical utility of a non-invasive urine test for risk assessing patients with no obvious benign cause of hematuria: A urologist-patient real world data analysis

Version: 0 Date: 05 Oct 2017

Reviewer: John Gebhart

Reviewer’s report:

Abstract:

Much of the conclusion section provides new results on the testing patterns, these should be removed from the conclusion and added to the results section.

Major Comments:

1. The definition of an "invasive" test skews results in favor of Cxbladder. For instance, why is a noncontrast CT scan considered "invasive"? Likewise, the statement that "all" providers changed management is misleading as some of these were forgoing other noninvasive measures (urine cytology, UroVysion FISH).

2. A more compelling use of the available data would be to compare management decisions between the various noninvasive tests available (UroVysion, urine cytology, etc.), and then the reader could compare options. Essentially, the data provided argue that more information allows for better patient specific decision-making, but doesn't give any data to why this specific test should be preferred above the other available options.

3. In Line 38-40 it needs to specifically state that the sensitivity and negative predictive value are in a population of patients with macrohematuria, not asymptomatic microhematuria as in this study. The prevalence of the underlying conditions can greatly impact these results.

4. A cost analysis should be added comparing the cost of obtaining the Cxbladder test(s) in all patients to the number of decreased procedures.

5. Was there significant variations in the degree of reduced procedures among the 12 physicians? What was the agreement among the physicians for the clinical scenarios.

6. How were the 33 cases selected? The original publication simply says "systematically selected", thorough further description is needed, including selection criteria. Were these randomly chosen, or chosen by a physician blinded to the outcome of the evaluation/pathology identified? Selectively choosing the cases may greatly impact the findings and utility of Cxbladder testing.
7. The final diagnosis in any positive cases should be presented, among the 33 how may had a cancer dx, and were they low grade urothelial ca in the ureter or a high grade bladder UC, or a Renal cell ca? This may impact the utility of the Cxbladder test and the potential for missed diagnoses. Likewise, you should comment on any "missed diagnoses" that would have resulted from decreasing testing.

8. What was the length of follow-up in the study to evaluate missed diagnoses on the initial evaluation? This is not stated in either the current study or the original publication (ref 12).

9. The original publication notes that all 12 participating physicians were given honoraria, this needs to be explicitly stated in this manuscript as well. Would also recommend providing the monetary value offered.

Minor Comment:

1. References: There are 2 reference #12s, please correct.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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