BLADDER CANCER

Replacing cystoscopies with *FGFR3* urine assays

Recent data suggest that partly replacing cystoscopies with *FGFR3* mutation urine analyses might be a safe and cost-effective strategy for monitoring recurrence in patients with *FGFR3*-positive non-muscle-invasive bladder cancer (NMIBC).

van Kessel *et al.* retrospectively studied rates of progression and recurrence in a series of 70 patients with primary *FGFR3*-positive NMIBC. They used these data, as well as data from other studies

in the published literature, to develop a Markov decision tree based on three different surveillance strategies—standard surveillance (cystoscopy every 3 months), minimal surveillance (cystoscopy at 3, 12, and 24 months), and modified surveillance (cystoscopy at 3, 12, and 24 months plus *FGFR3* mutation analysis every 3 months).

This decision tree was then used to calculate 3-monthly recurrence and progression probabilities for a hypothetical cohort of 1,000 patients. Analysis of these fictional data suggested that, although standard surveillance would probably achieve slightly better 2-year detection rates for bladder recurrences, a greater proportion of upper urinary tract (UUT) recurrences would be detected using the modified strategy. Furthermore, surveillance cost would be substantially reduced using a modified protocol in place of the standard (€2,558 versus €5,861).

Given that more than half of all patients with NMIBC experience disease

recurrence, surveillance is a critical issue. Not only is cystoscopy an invasive procedure with associated anxiety, dysuria, UTIs, and financial costs, it can only detect recurrences that occur inside the bladder. Delays to the diagnosis of UUT recurrences—for example, in the pyelum or ureters—can have severe consequences.

“The next step is to test the proposed strategies in a real patient cohort,” explains lead investigator Kim van Kessel. “A prospective study design, preferably a randomized controlled trial (RCT), would be best. We have shown that the newly proposed surveillance strategy is probably safe to perform. An RCT might now be better substantiated.”

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Original article van Kessel, K. *et al.* *FGFR3* mutation analysis on voided urine samples to reduce cystoscopies and cost in non-muscle invasive bladder cancer surveillance: a comparison of three different strategies. *J. Urol.* 10.1016/j.juro.2012.11.005

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