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BLADDER CANCER

Genetic urinary biomarker panel is promising

> The combined biomarker assay was able to anticipate the occurrence of recurrence

A diagnostic urinary biomarker combination has been described for patients with non-muscle-invasive bladder cancer (NMIBC). The results of this study provide more evidence for the value of urine analysis as an alternative diagnostic tool to cystoscopy for patients with this disease.

In this multicentre study, 2,496 urine samples were collected from 977 patients with NMIBC before they received cystoscopy during regular visits to the clinic. These samples were analysed for *FGFR3* and *TERT* mutations and methylation of *OTX1*. The sensitivity of this biomarker assay was then assessed for different subsets of patients.

In patients with primary, low-grade NMIBC, the sensitivity of the assay for recurrence detection was 57%, which rose to 83% for pT1 and muscle-invasive bladder cancer (MIBC) recurrences. In patients with primary, high-grade NMIBC, assay sensitivity for recurrence detection was 72%. The combined biomarker assay was able to anticipate the occurrence of recurrence earlier than cystoscopy: in instances of a positive urine test without concomitant recurrence on cystoscopy, recurrence often occurred after a period of 2–5 years. Furthermore, high-grade recurrences were mostly detected within the first year after urine analysis, whereas Ta recurrences were not found until later in the follow-up analysis.

The results of this study support the value of urine analysis as an alternative to cystoscopy and the possibility of a 'urine-first' follow-up strategy for follow-up monitoring of patients with low-grade NMIBC, and combined use of cystoscopy and urine analysis for patients with high-grade NMIBC.

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ORIGINAL ARTICLE Beukers, W. *et al.* *FGFR3*, *TERT* and *OTX1* as urinary biomarker combination for surveillance of bladder cancer patients in a large prospective multicenter study. *J. Urol.* http://dx.doi.org/10.1016/j.juro.2016.12.096 (2016)