

Urothelial cancer prediction model has high sensitivity, specificity

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A urothelial cancer (UC) prediction model, which considers 10 genes

with the highest performance from the UroAmp urinary comprehensive genomic profiling (uCGP) test, has high sensitivity and specificity, according to a study presented at the annual congress of the European Association of Urology, held from March 10 to 13 in Milan.

Florence Le Calvez-Kelm, Ph.D., from the International Agency for Research on Cancer in Lyon, France, and colleagues developed a UC screening model considering 10 [genes](#) with the highest performance based on uCGP data from a training cohort composed of 140 urology controls and 96 tumors. The model was validated in two studies: a multi-institutional case-control design with 96 controls and 70 cases and a nested case-control design within the prospective Golestan Cohort Study, which included 29 asymptomatic individuals who subsequently developed primary UC and 98 matched controls.

The researchers found that the UC model was trained to a sensitivity and specificity of 88 and 94 percent, respectively. In the first validation, sensitivity was 86 and 71 percent for de novo and overall (de novo and recurrent) tumors, respectively, and specificity was 94 percent. In the Golestan validation cohort, the prediction sensitivity and specificity were 66 and 94 percent, respectively. uGCP-predicted positives had significantly worse cancer-free survival compared with uGCP-predicted negatives (hazard ratio, 8.5). The UroAmp [test](#) detected preclinical UC in 86 percent of future cancers when limited to UC diagnosis within seven years.

"Should the results be replicated in larger cohorts, urine tests for these mutations could enable routine screening for [high-risk groups](#), such as smokers or those exposed to known bladder carcinogens through their work," Calvez-Kelm said in a statement.

Several authors are employed by Convergent Genomics, the developer of the UroAmp test.

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