

## The Role of BTA stat in Clinical Practice

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### Abstract

**Objective:** BTA stat is a rapid, urine-based test for bladder cancer that detects human complement factor H related protein (HCFHrp) by monoclonal assay. This aim of this study was to assess the efficacy of BTA stat as a diagnostic tool for bladder cancer in symptomatic patients suspected of bladder cancer and in the surveillance of patients with a history of treated bladder cancer. **Patients and Methods:** One hundred and six patients presenting with haematuria (gross or microscopic) or irritative bladder symptoms presenting to the urology outpatient clinic of Changi General Hospital and 13 patients under bladder cancer surveillance were recruited for this prospective study. All underwent voided urine cytology (VUC), urine culture, urine BTA stat, intravenous urogram and cystoscopy. Sensitivity, specificity, positive and negative predictive values were calculated for both tests. The stage and grade of bladder tumours detected were also correlated with both test results. Causes of false positives and specificity in different patient groups were analysed. **Results:** BTA stat is more sensitive than VUC in detecting primary and recurrent bladder tumours (85% versus 55%) but is less specific (62.6% versus 100%). Urinary tract infections and urinary calculi accounted for 62% of false positives with BTA stat. When patients with positive urine cultures and benign IVU abnormalities were excluded, specificity of BTA stat improved (93.9% cf. 62.6%). BTA stat was highly specific (100%) and more sensitive than VUC (75% versus 25%) in detecting recurrent tumours in asymptomatic patients on cancer surveillance. **Conclusion:** A high false positive rate and low predictive value limits the use of BTA stat in screening symptomatic patients. However, it has a role in cancer surveillance and in the screening of high-risk asymptomatic individuals. Further prospective trials should be performed to better assess its role in this respect.

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**Key words:** Bladder tumour markers, BTA stat, Voided urine cytology

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