

Diagnostic Evaluation of Urinary Angiogenin (ANG) and Clusterin (CLU) as Biomarker for Bladder Cancer

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Abstract : Bladder carcinoma is an important worldwide health problem. Both cystoscopy and urine cytology used in detecting bladder cancer suffer from drawbacks where cystoscopy is an invasive method and urine cytology shows low sensitivity in low grade tumors. This study validates easier and less time-consuming techniques to evaluate the value of combined use of angiogenin and clusterin in comparison and combination with voided urine cytology in the detection of bladder cancer patients. This study includes malignant (bladder cancer patients, n= 50), benign (n=20), and healthy (n=20) groups. The studied groups were subjected to cystoscopic examination, detection of bilharzial antibodies, urine cytology, and estimation of urinary angiogenin and clusterin by ELISA. The overall sensitivity and specificity were 66% and 75% for angiogenin, 70% and 82.5% for clusterin and 46% and 80% for voided urine cytology. Combined sensitivity of angiogenin and clusterin with urine cytology increased from 82 to 88%.

Keywords : angiogenin, bladder cancer, clusterin, cytology

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