

ORAL PRESENTATIONS

HPV AND BLADDER CANCER: A NEW CHALLENGE FOR THE UROLOGICAL RESEARCH

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Background: Infections with high-risk HPV types (HR-HPV), such as 16, 18 and 33, have been demonstrated in a high percentage of patients with several cancers. Moreover, HR-HPV infection has also been confirmed in urothelial cell carcinoma (UC) of the urinary bladder.

Objectives: To establish the pathogenetic role of HR-HPV in UC development and progression.

Materials and Methods: A series of 78 patients affected by histopathologically demonstrated UC were enrolled in the present study. From all patients, a sample of morning spontaneous voided urine was collected by using a sterile method and before surgery, in order to evaluate the presence of HR-HPV-DNA. The DNA extraction and purification from all biological materials was performed by DNeasy® Tissue Kit by QIAGEN Spa, Italy. The presence of genital HR-HPV-DNA was investigated by Alpha Watch HPV, Alphagenic-Diaco-Biotechnology, Trieste, Italy. Moreover, the presence of HR-HPV-DNA was evaluated both in urine and in tumour tissues obtained from surgery. 59 patients affected by bladder outlet obstruction (BOO) due to benign prostatic hyperplasia (BPH) and who had undergone TUR-P were considered as a control group.

Results: The presence of HR-HPV-DNA was reported in 27 out of 78 (34.6%) tumour samples and in 6 out of 59 (10.1%) specimens from TUR-P, with a statistically significant difference ($p=0.003$). On the other hand, the presence of high-risk HPV-DNA in urine samples was 36 out of 78 (46.1%) obtained from UC patients while 8 out of 59 (13.5%) from BPH patients ($p=0.008$). These data, even if they were to be confirmed by studies with a greater number of patients, require further assessment.

Conclusions: The role of HR-HPV in bladder carcinogenesis is still debatable, but the present data suggest a potential role of HR-HPV in bladder cancer development and progression, that should be taken into consideration in everyday clinical urological practice.