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Molecular detection of Human Papillomavirus genotype-31 in tissues from patients with prostate cancer and benign prostatic hyperplasia

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Abstract : High oncogenic-risk genotypes of human Papillomavirus (HPV) infect a wide range of human cells, including prostate tissue that give rise to benign prostatic hyperplasia and prostatic adenocarcinomas.
This study aimed to detect DNA of HPV genotype-31 using in situ hybridization technique in prostatic tissues from benign prostatic hyperplasia and prostatic adenocarcinomas, and elucidate the association between these HPV genotypes and prostatic carcinogenesis.
Fifty (50) formalin-fixed, paraffin embedded prostatic tissue blocks were obtained ,among them (25) tissue biopsies from prostatic carcinoma with different grades and (15) benign prostate hyperplastic tissue blocks as well as (10) apparently normal prostate tissue autopsies which were collected from the archives of Forensic Medicine Institute/ Baghdad and used as prostate healthy control groups. Detection and genotyping of HPV was done by highly sensitive in situ hybridization technique.
The signals of in situ hybridization reactions of HPV-31 in prostate cancer cases in the present study was 52% (13 / 25) whereas in BPH, HPV-31 was detected in 33.3 %(5 /15). Non HPV-31 was detected in the apparently healthy control group .The highest percentage (24%) of positive- HPV31- DNA ISH reactions was found in tissues of prostatic carcinoma showing moderate differentiation.
Our results indicate that the oncogenic HPV-31 might contribute to the development of subset of prostate tumors.
Key word: HPV-31; prostate cancer, benign prostatic hyperplasia,in situ hybridization.

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