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## Detection of *Trichomonas vaginalis* in benign hyperplastic prostate tissue

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Prostate cancer and benign prostatic hyperplasia (BPH) represents the most common urologic disease among the elderly males resulting in more than 2 million visits per year. BPH affects about one-quarter of men in their 50s. The pathogenesis of BPH is not yet completely understood however, the role of chronic inflammation is emerging as an important factor in BPH development and progression. Recently, the studies have found that *T. vaginalis* may be associated with asymptomatic infections in 50-75% of infected men. In this study, the possibility of asymptomatic persistence of *T. vaginalis* in the prostate gland using benign hyperplastic prostate tissue as prostate condition other than clinical prostatitis was investigated.

**Study subjects & methods:** The occurrence of *T. vaginalis* in prostate tissue of 75 men of >50 years of age suspected was investigated and treated for BPH by transurethral resection of the prostate at the Mubarak Al-Kabir Teaching Hospital, Kuwait. The presence of *T. vaginalis* infection in the prostate tissue was determined by PCR analysis of the DNA extracted from the tissue and immunocytochemistry of the tissue sections of the prostate tissue was done. In addition, P16 antigen was also detected in the tissue sections. The antibodies to *T. vaginalis* were also determined in blood.

**Results:** *T. vaginalis* DNA in 18 of 75 (24%) and P16 antigen in 16/75 (21%) of BPH tissue samples, of which only 7 (39%) BPH tissues were positive by immunocytochemistry were detected. In addition, three *T. vaginalis* DNA-negative prostate tissues were also positive immunocytochemistry. *T. vaginalis*-specific antibodies with predominantly IgG4 antibodies were detected in 23 (31%) cases.

**Conclusion:** The preliminary study suggests a direct evidence of *T. vaginalis* in BPH tissues with no clinical signs of prostatitis. It was hypothesized that chronic *T. vaginalis* infection of prostate tissue may lead to BPH in elderly people.

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