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FUNCTIONAL UROLOGY

The presence of LUTS is not a decisive tool for deciding who should be qualified for prostate biopsy

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Lower urinary tract symptoms (LUTS) remain one of the most common clinical complaints in adult men. The prevalence of LUTS increases with age. LUTS can be divided into storage, voiding and post–micturition symptoms. These symptoms are related to bladder outlet obstruction as a result of benign prostatic obstruction, which is commonly associated with benign prostatic enlargement resulting from the histologic condition of benign prostatic hyperplasia. Moreover, LUTS are not necessarily related to prostatic diseases [1].

The link between LUTS and prostate cancer has been investigated previously. The authors of the paper entitled "Lower urinary tract symptoms and the severity in men subjected to prostate biopsy" analyzed the relationship between LUTS and prostate cancer in men submitted to prostate biopsy. The results showed that LUTS remain a week predictor for prostate cancer. However, when prostate cancer is diagnosed, it tends to be more advanced and less well differentiated patients with LUTS [2].

In the large Gothenburg randomized population–based prostate cancer screening trial on 2,353 patients who underwent prostate biopsy, Franlund et al. [3] diagnosed prostate cancer in 27% cases (633/2353) and benign prostate hyperplasia (BPH) in 73% cases (1720/2353). Patients with cancer presented a lower incidence of voiding symptoms as compared to BPH cases (24% *vs*. 31%). Moreover, increasing age and total PSA level were positively associated with prostate cancer, while prostate volume, free/total PSA ratio and the presence of voiding symptoms were inversely associated with the risk of detecting cancer in a screening setting.

It is worth noting that previous studies showed an increasing number of single nucleotide polymorphisms (SNPs) associated with prostate cancer risk. Some of these genetic changes were associated with PSA level and LUTS. Thus, the question of whether SNPs are prostate cancer biomarkers still remains unclear. Of 38 SNPs that predispose to prostate cancer, Helfand et al. [4] identified 3 SNPs that are also associated with LUTS. rs1571801 on chromosome 9q33.2 and rs5945572 on chromosome Xp11 were significantly associated with increased LUTS. Contrary, rs445114 on chromosome 8q24 was marginally associated with decreased LUTS. Reinhardt et al. [5] analyzed some SNPs which were previously described by Helfand et al. [4] to assess the detection bias due to LUTS. They hypothesized that patients with LUTS SNPs might have larger prostates, although they observed no significant relationships of these SNPs with prostate volume.

In conclusion, the presence of lower urinary tract symptoms is not a decisive tool for determining which patient with an abnormal serum PSA level should be qualified for prostate biopsy.

References

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