Screening and Diagnostic Considerations in Benign Prostatic Hyperplasia

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Summary

Benign prostatic hyperplasia (BPH) is an ever present threat to aging men. The gradual demographic shift of the population of the western world appears to be towards the elderly. The increasing burden on both individuals and the healthcare system, therefore, is going to increase in the foreseeable future. Although BPH is not a life-threatening condition, it can have serious consequences on the normal function of the lower urinary tracts. The overlap in terms of presentation exists with malignant prostatic disease and this needs to be considered when investigating these patients. The morbidity caused by BPH should not be underestimated for the sufferer, especially where there are ready treatments available and the opportunity to exclude other even more serious conditions.

This article reviews the latest publications and papers looking at diagnosis and, in particular, identifying those at risk, the assessment of severity using symptom scores and discussing the methods and effectiveness of the various investigative tools. Controversy exists over the role of prostate-specific antigen (PSA) in detecting prostate cancer and the role of urodynamics versus symptom scores in the treatment and assessment of BPH patients with lower urinary tract symptoms. Investigations include the blood test for PSA to pick up those with carcinoma of
Benign prostatic hyperplasia (BPH) represents a histological diagnosis and is the commonest benign neoplasm in men. It results from periurethral glandular hyperplasia arising within the transition zone of the prostate which gradually impinges on the lumen of the prostatic urethra leading to bladder outflow obstruction (BOO). The disorder is a very common condition as evidenced by a post mortem study which found 70% of 70-year-old men to have significant transitional zone hyperplasia.\(^1\)

Clinical BPH is a term often used to describe the problem when it manifests in clinical practice. However, the estimated prevalence of this will inevitably depend on the definition which is used, as evidenced from a review of the literature. A community study by Garraway et al.\(^2\) reported that 43% of 65-year-old men had clinical BPH, of whom half suffered a significant worsening of their quality of life.\(^1\) However, using a combination of the American Urological Association (AUA) symptom score \(\geq 11\) and a measured prostate size of greater than 20g as an anatomical definition, the age-specific prevalence rate for 60- to 69-year-old men was 878 per 1000.\(^3\)

The problems with the definition of BPH are emphasised because lower urinary tract symptoms (LUTS) are not disease-specific: only 60 to 70% of patients with typical symptoms of BOO have proven obstruction on urodynamic study.

Appropriate evaluation of the symptomatic patient relies on a careful clinical history augmented by the use of a symptom score such as the International Prostate Symptom Score (IPSS), a physical examination including a digital rectal examination (DRE) and the use of appropriate diagnostic tests such as serum prostate-specific antigen (PSA) and transrectal ultrasound scan (TRUS) when it is suspected to help exclude malignancy.

The actual quantification of BOO relies on the judicious use of urodynamics incorporating flow rate, transabdominal ultrasound for post-micturition residual volumes and pressure flow studies. Abrams\(^4\) demonstrated that the inclusion of pressure flow urodynamic data in the preoperative evaluation and indication for surgery reduced the subjective failure of transurethral resection of the prostate from 28 to 12%. However, this is an invasive investigation and is considered in selected patients, who may have other causes than BPH for their symptoms.

Results have revealed that pressure flow studies are considered in 22% of patients attending our prostate clinic.\(^5\) This group includes those patients aged <55 years with a history of previous prostate surgery, the presence of neurological disease, inability to provide sufficient volumes for interpretation of uroflowmetry and significant LUTS despite reasonable flow rates.

Mortality from BPH has decreased in the western world over the last 40 years.\(^6\) However, BPH continues to affect around 2 million men in the UK and there is still considerable morbidity. This figure is likely to increase significantly, both with increased awareness of the clinical problem and with the projected 42% increase of the population aged >65 years during the next 35 years.\(^7\)

In a condition that is so common in men over 50 years, the diagnosis of BPH must be considered but not at the expense of detecting patients who have other causes for their symptoms as they may well require a different management strategy. Other causes of LUTS include bladder neck contracture and urethral stricture causing obstruction, while detrusor failure may result in the same symptoms either with or without outflow obstruction. Carcinoma may cause the same symptoms as BPH, and is excluded by performing a DRE, taking blood for PSA levels and TRUS with biopsy if needed.

Currently, there is little justification for screening the asymptomatic population for either BPH or carcinoma of the prostate; however, devoting ef-