

Urology

THE PRACTICE OF UROLOGY continues to be affected by the compulsory wearing of seatbelts, resulting in less trauma, and antismoking initiatives. Bladder cancer is an occupationally related tumour, but cigarette smoke is by far the most significant environmental carcinogen, so a recent report suggesting that smoking rates may be declining¹ is heartening.

Prostate cancer. The trend to earlier diagnosis of prostate cancer continues. Detection of an elevated serum prostate specific antigen (PSA) level is usually followed by biopsies guided by transrectal ultrasound (TRUS). PSA analysis has been expanded to give more information; rate of change of total PSA (PSA velocity) and the percentage of free PSA (unbound) are most often used (lower percentages of free enzyme being associated with a higher likelihood of malignancy, especially for total PSA levels 4–10 µg/L).

TRUS-guided sextant prostatic biopsies are not new, but, particularly with larger prostates, repeat biopsies after negative findings have increased detection rates up to 30%.² Consequently, eight or more biopsy samples are now often obtained. As well as pre-TRUS-PSA, Gleason score and number of tumour-containing cores (with percentage involvement) serve to predict the likelihood of cancer being localised. Thus, the PSA-transrectal ultrasound approach appears to have reached maturity and a change in direction, such as molecular characterisation of ejaculate, is now required to advance early diagnosis and natural history prediction.

The focus on PSA by patients has contributed to androgen suppression starting earlier, despite unwanted side effects with all forms of hormonal treatment and a lack of convincing evidence that earlier intervention improves survival. Intermittent androgen blockade does not adequately compensate for early commencement of androgen suppression, as, certainly in the short-term, many unwanted effects, including testosterone suppression, are not always reversible. The popularity of maximal androgen blockade has waned since the publication of unresponsive meta-analysis data.³

Notwithstanding its major advantage of avoiding contrast media, spiral computed tomography (CT) serves as an adjunct to, rather than a replacement for, intravenous urography, which remains the first-line investigation for most ureteric colic patients. Non-contrast CT does not provide functional information, but may detect other abnormalities.

Female urinary incontinence. This is one of the conditions managed by both urologists and gynaecologists. The mainstay of treatment for patients with overactive bladders (frequency and urgency with or without urgency incontinence in the absence of attributable local, pathological or metabolic factors⁴) is anticholinergic drugs, with doses limited by dry mouth and constipation especially. Recently evaluated uroselective agents have shown a considerable reduction in unwanted effects without loss of efficacy.

The tension-free vaginal tape (TVT) procedure was recently introduced for stress incontinence. Its low rate of short-term complications has been attributed to its wide-mesh monofilament polypropylene composition, reputed to retain flexibility and admit macrophages, fibroblasts, blood vessels and collagen into its pores to permit elimination of infiltrating bacteria. Whether such

attributes translate into lower complication rates and continued success in the longer term (more than two years) remains to be seen. Concerns about an uncritical adoption of the TVT procedure, paralleling initial enthusiasm for needle suspension operations in the 1980s, are justifiable. TVT operations are often performed as day procedures — a not insignificant attraction given the current shortage of hospital beds.

Lower urinary tract symptoms (LUTS). LUTS, even when categorised as storage or emptying, are poor indicators of underlying LUT dysfunction. A third of men with LUTS do not have bladder outflow obstruction (BOO), accurate diagnosis of which is problematical. Consequently, there is a tendency to treat LUTS with medications and to identify BOO only when considering more invasive therapies. This approach relates particularly to the commonly used saw palmetto berry (*Serenoa repens*) extract, which affords LUTS relief for many men.

Treatment by α_1 -blockade (doxazosin, prazosin, terazosin) is well established for benign prostatic hyperplasia (BPH) causing BOO. BPH is predominantly a stromal condition and these drugs target prostatic and bladder-neck smooth muscle. Improvements in symptom scores and flow rates often persist long-term. Seventy per cent of prostatic adrenoreceptors are of the α_{1A} receptor subtype. Tamsulosin, a selective α_{1A} antagonist, has a safety profile superior to non-selective α_1 antagonists, with comparable effects on LUTS. However, dizziness and abnormal ejaculation may still occur.

Male sexual dysfunction. The adverse impact of sexual dysfunction on quality of life has only recently been acknowledged. Papaverine and prostaglandin E₁ intracavernosal injections were a significant advance. However, a dramatic change came with the serendipitous discovery of sildenafil, which prolongs nitric oxide-induced cavernosal muscle relaxation. While sildenafil therapy represents a revolution in impotence treatment, it does not address underlying pathogenesis.⁵

Infertility. One of the most remarkable milestones of the 1990s was intracytoplasmic sperm injection (ICSI). Despite the possibility that sperm with suboptimal genetic characteristics may be selected for this process, ICSI has become established as a valuable option in infertility management.

Conclusion. Urology is continuing to evolve at a rapid rate. Consequently, urologists are tending to subspecialise rather than practise in the broad range of conditions which constitute this fascinating yet practical specialty.

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