

ABSTRACTS

SEXUAL FUNCTION IN PATIENTS TREATED FOR BENIGN PROSTATIC HYPERPLASIA

A recent article by Kassabian in the *Lancet*¹ looks at the relationship between benign prostatic hyperplasia (BPH) and sexual dysfunction, since many have suggested a causal relationship between the two. As the author points out, with increasing age sexual dysfunction and BPH become more prevalent. It is also true that some treatments for BPH can affect sexual function and the different surgical treatments have differing effects, depending on the extent to which the internal involuntary sphincter is affected. Medical therapies can also have an effect.

However, the idea that BPH itself is an independent cause of sexual dysfunction has recently been challenged, and a report by Liefeld and colleagues² suggests that the relationship is coincidental. Their study showed that age was the most important determinant of sexual function. They also found that the effect of urological comorbidity, such as bladder stones, increased the rate of sexual dysfunction.

So, Kassabian suggests that the relationship between the treatment for BPH, or watchful waiting, and sexual dysfunction is entirely coincidental, unless symptoms become severe or complications such as bladder stones develop. Medical therapy is now more common than surgical therapy and treatment of BPH is common, so any effect on sexual function will become even more important. As well as this, discussion about sexual function in men has become more open than in the past, which has led to a better understanding of any problems and better treatment.

BPH is a common problem as men age. The neurovascular bundles responsible for the erectile response are intimately related to the prostate gland, and the prostate itself contributes more than 50% of the seminal fluid. Therefore it is important to look at the effect of BPH or its treatment on sexual function.

BPH and sexual function

BPH is ubiquitous with ageing and histologically begins at a relatively young age. By the age of 60, it is estimated

that one-half of all men have histological evidence of BPH and all men have it by age 80.

For sexuality in men there is good evidence that they have a gradual decline in serum androgen levels, resulting in a marked decrease in testosterone production. Sexual activity also seems to decline with age, particularly after age 65.

Although there appears to be no causal relationship between BPH and sexual function, the various treatments for the condition may have an effect. As Kassabian points out, it is important to differentiate between erectile function, libido and ejaculation when discussing side-effects of these surgical and medical therapies for BPH.

Surgical treatment

Transurethral prostatectomy

Transurethral prostatectomy (TURP) remains the gold standard for the surgical treatment of BPH. Impotency has been reported at a rate of 4 - 40% in several studies, but this is now thought to be an overestimate. Another study found an overall rate of 13% in men treated for BPH. Importantly, this study also found a 20% rate of declining potency over 3 years in the age range for BPH in the untreated group. In a study looking at patients' own evaluation of sexual dysfunction after TURP, 54% reported deterioration and one-half blamed the operation. But the actual rate was less as confirmed by more objective reports.

The erectile dysfunction commonly seen immediately after TURP may be temporary. Neuropraxia from thermal injury or the emotional stress of surgery are possible mechanisms. Retrograde ejaculation is the most common complication of TURP, found in more than 50% of patients. Open prostatectomy has little effect on erectile function, but is associated with a high risk of retrograde ejaculation.

Other surgical treatments

All the recently developed surgical treatments for BPH are minimally invasive — carried out under local anaesthetic. They include transurethral incision of the prostate (TUIP), laser prostatectomy, transurethral needle ablation (TUNA) and various forms of microwave therapy (TUMT). There are scant data on erectile function after minimally invasive procedures, but available data suggest that there is little effect. Retrograde ejaculation is also less common.

Medical therapies

Finasteride

Finasteride is a 5-alpha-reductase inhibitor which blocks the conversion of testosterone to the more potent dihydrotestosterone. The drug decreases in levels of serum and intraprostatic levels of dihydrotestosterone, but there is little change in levels of testosterone. This means that libido should not change, but because of atrophy of the prostate the production of seminal fluid decreases and a decreased ejaculate volume is commonly reported. The incidence of erectile dysfunction or decreased libido with finasteride is slightly higher than with placebo, but still low at 10%.

Alpha-blockers

All alpha-blockers relax the alpha-adrenergic receptors in and around the bladder neck and prostatic urethra. This is usually not enough to produce retrograde ejaculation. Terazosin and doxazosin have little effect on sexual function, libido or ejaculation, and neither does alfuzocin. Tamsulosin is probably the most potent and selective alpha-blocker available and has the highest reported incidence of retrograde ejaculation.

When alpha-blockers such as terazosin, doxazosin and prazosin are used to treat hypertension, erectile dysfunction

may occur as a consequence of the occlusive effect of chronic hypertension on the small vessels. This results in decreased blood flow to the penis when blood pressure is lowered.

Conclusions

Both BPH and sexual dysfunction are common in older men, but BPH does not have an objective effect on sexual function, although it is often perceived as such by the patient. TURP and open prostatectomy have the highest incidence of retrograde ejaculation, and the minimally invasive procedures have little effect on sexual function.

The medical therapies have little effect on normotensive men, with the possible exception of tamsulosin for retrograde ejaculation and finasteride for libido, erectile dysfunction and low-volume ejaculates. However, these reported side-effects, although statistically significant, are uncommon.

1. Kassabian VK. *Lancet* 2003; **361**: 60-62.
2. Liefeld HHJ, *et al. BJU Int* 2002; **89**: 208-213.

Bridget Farham