

Benign prostatic hypertrophy

The prostate is a gland, about the size of a walnut, only found in men. It is located just below the bladder and surrounds the tube known as the urethra through which urine flows from the bladder out through the penis. The prostate is divided into three zones - central, transitional and peripheral. One of the main functions of the prostate is to produce an important liquefying component of semen, which allows the sperm to move freely.

Benign prostatic hyperplasia (BPH) is caused by overgrowth of prostate cells in the central part of the prostate. This enlargement constricts the urethra so the flow of urine is reduced and men find it increasingly difficult to empty their bladder.

BPH is very common and affects about one third of men over 50, and it is different from prostate cancer. However, their symptoms overlap, so you should see your doctor if you start to experience problems passing urine. A separate fact sheet on Prostate Cancer contains more information.

Symptoms

You should consult your GP if you notice any of the following symptoms:

- hesitancy (difficulty in starting to pass urine)
- a weak stream
- the need to strain to pass urine
- the feeling that your bladder isn't empty after urination
- the need to pass urine urgently
- frequent trips to the toilet, including having to get up several times in the night
- feeling a burning sensation or pain when passing urine

Diagnosis

Your doctor will ask you questions about your symptoms, your general health and other relevant information to help work out how bad and how bothersome your symptoms are to you.

A digital rectal examination (DRE) will be performed to examine the size and consistency of your prostate by inserting a finger into your rectum. Although this can be uncomfortable, it is not painful. Many men find the prospect of a DRE embarrassing, but should bear in mind that it's a simple procedure, performed routinely by GPs.

Your doctor will also feel the abdomen to find out if the bladder is distended, which may mean that you are not emptying it fully (chronic urinary retention, which is painless).

Other tests will be carried out to make sure that your urinary problems are due to BPH and not other conditions. A urine test will be done to check for infection or blood.

Blood tests, including a prostate specific antigen (PSA) test may be carried out. This measures the amount of an enzyme produced by the prostate and high levels can indicate the presence of prostate cancer. Other blood tests include assessing your kidney function and checking for blood sugar to rule out diabetes. Both of these problems can have urinary symptoms.

Other less common tests may include: urine flow tests; ultrasound to measure urine left in the bladder and to check for bladder stones; urodynamic measurements using a small catheter inserted into your bladder through your penis to measure the pressure within your bladder; transrectal ultrasonography (TRUS) where an ultrasound probe is passed into the rectum to give a view of the prostate. A biopsy (samples of the prostate) may be collected using a needle if cancer is suspected.

Treatment

The mainstays of treatment for BPH are drugs or surgery. However, some men with mild symptoms opt for 'watchful waiting', where no treatment is undertaken but instead your condition will be monitored closely with routine check-ups. If your condition deteriorates you can then opt for treatment.

Drug treatment

There are two main classes of drugs that are prescribed for BPH:

- alpha-blockers
- five alpha reductase inhibitors (often written 5 α reductase inhibitors)

Alpha-blockers work by relaxing the muscles at the neck of the bladder and in the prostate. In this way they reduce the pressure on the urethra and so help increase the flow of urine. They do not cure BPH but help to alleviate some of the symptoms. Around 60% of men find their symptoms improve significantly within the first 2-3 weeks of treatment with an alpha-blocker. There are several different five alpha blockers. Currently, these are doxazosin (Cardura), terazosin (Hytrin), tamsulosin (Flomax), alfuzosin (Xatral) and prazosin (Hypovase). They can also be used to treat high blood pressure. The most common side-effects of alpha-blockers are tiredness, dizziness and headache.

5 α reductase inhibitors work by inhibiting the production of a hormone called DHT, which contributes to prostate enlargement. Finasteride (Proscar) is the mostly commonly used drug of this type for BPH. Unlike alpha blockers, 5 alpha-reductase inhibitors are able to reverse BPH to some extent and so may delay your need for surgery.

Potential side-effects of finasteride include a reduced sex drive and difficulty in maintaining an erection. Several months of treatment may be needed before improvement is noticed.

Plant extracts

A range of plant extracts claim to alleviate BPH, although formal evidence that they are effective is often scanty. However, there is some scientific evidence that an extract of saw palmetto (called *Serenoa repens*) can be beneficial and it is a popular treatment for BPH, especially in Germany. If you decide you want to try a plant remedy, it's always best to discuss this first with your doctor or pharmacist as interactions with conventional medicines are possible.

Surgery

There are three main surgical options for BPH:

- transurethral resection of the prostate (TURP)
- transurethral incision of the prostate (TUIP)
- open prostatectomy

Transurethral resection of the prostate (TURP) is the most common operation for BPH. The procedure usually takes place under a general anaesthetic. A long thin instrument called a resectoscope is passed into the urethra. With a light source and lens on the end, it acts like a telescope, allowing the surgeon to view the prostate either directly or on a video monitor. A precisely controlled electric current, applied by a loop of wire at the end of the resectoscope, is used to shave off sections of the enlarged prostate.

TURP is an effective procedure with over 90% of men reporting an improvement after the operation. However, as with any surgical procedure, there is a risk of side-effects and complications. The most common side-effect (an unwanted effect that accompanies a successful treatment) of this procedure is retrograde ejaculation - where semen passes into the bladder during orgasm instead of out of the penis. This is sometimes called a 'dry orgasm'. This is usually not a problem although it may reduce fertility. Complications of the operation can include some urinary incontinence or damage to the urethra, resulting in a "stricture" that can cause difficulty in passing urine.

Transurethral incision of the prostate (TUIP) may be appropriate for men who have a smaller enlarged prostate. It is a quicker operation than a TURP and involves removal of less tissue. It is performed under general or spinal anaesthetic. As with a TURP an instrument is passed up through the penis, but instead of removing a portion of the prostate, small cuts are made in the neck of the bladder and the prostate. This reduces the obstruction of the flow of urine.

Open prostatectomy is only recommended for those men whose prostate is very large. It is a major operation and carried out under a general anaesthetic. An incision is made in the lower abdomen in order to remove the central part of the prostate.

Other treatments

Laser therapy (using a laser probe to cut away prostate tissue) and transurethral microwave thermotherapy (using heat to remove some of the prostate tissue via a probe) are becoming more common in the treatment of BPH.

Prevention

Although it is not known why only some men develop BPH, it is clear that advancing age is the prime risk factor. Testosterone is certainly involved in the development of BPH in some way and it is likely that the female hormone, oestrogen, plays a part. Studies suggest that men in the Far East are protected against BPH by a diet high in soya which contains oestrogen-like substances.

At present, there is little you can do to prevent BPH. You can visit your doctor if you develop urinary problems to ensure that any problems are dealt with promptly and appropriately and while treatment is simpler.

Further information

American Prostate Society
<http://www.ameripros.org/bph.html>

National Kidney and Urologic Diseases Information Clearinghouse
<http://www.niddk.nih.gov/health/urolog/pub/prostate/index.htm>

Healthwise (Health Information Resource Centre)

Tel : (852) 2849 2400
Fax : (852) 2849 2900
Email : info@healthwise.org.hk
Homepage : www.healthwise.org.hk

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