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The differences between the three common causes of nocturia

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The International Continence Society (ICS) defines nocturia as "the complaint that a person has to wake up from sleep more than once a night to urinate".[1] Nocturia gets more common with age, and it can be caused by many different things.[2]

On a large scale, the leading causes of night time bathroom issues come from underlying health problems such as poorly controlled diabetes, heart disease or nephrotic syndrome. A doctor would do a general health screen first to rule out these possibilities. Other common causes of nocturia include: benign prostatic hyperplasia (BPH), overactive bladder (OAB) and nocturnal polyuria (NP), but what are the differences between the three?

BENIGN PROSTATIC HYPERPLASIA

What is it?

It is a benign (non-cancerous) enlargement of the prostate. The prostate is a small gland found only in men, situated just below the bladder, roughly the size of a walnut. The prostate functions to secrete fluid that nourishes semen.[3]

As men age, the prostate becomes bigger. A man goes through two stages of rapid prostate growth is his life. The first rapid growth phase happens from the age of 10 to 30 years, growing at an average rate of 0.84g per year. From ages 30 to 50, growth slows down. But from ages 50 to 90, the prostate grows quickly again at a rate of up to 1.20g a year in some people, leading to the development of BPH.[4]

When the prostate gets too large, it begins to squeeze on the urethra (a thin tube urine passes through to leave the body). This causes some difficulty in urination. If a man can't fully empty his bladder, he will begin to experience storage and voiding symptoms. Storage symptoms include: frequency, urgency, involuntary loss of urine (urge incontinence) and nocturia. Voiding symptoms or obstructive symptoms refer to hesitancy, poor or intermittent stream, strain while urinating, a feeling of incomplete bladder emptying, dribbling and others.[5]

"Most men will eventually experience BPH," Dr Hemanth explains. "It can start as early as the 50's or as late as the 90's. The average man who walks through my door for BPH-related reasons is 65 years old. That said, I do get patients who are in their 40's as well."

Diagnosis

A simple rectal examination will be able to confirm BPH. The doctor feels the prostate for size as well as to eliminate the possibility of prostate cancer or prostatitis. The doctor may also perform an ultrasound to measure prostate size and to see the extent of the effects of BPH. Sometimes, the bladder muscles may have thickened because it had to work harder in expelling urine.

Treatment

Those with mild symptoms may require just observation plus behavioural therapy – which means cutting back on fluids such as caffeine or alcohol and restricting fluid intake in the evening.

Patients with moderate to severe symptoms can opt for appropriate medication prescribed by a doctor or surgical options.

OVERACTIVE BLADDER SYNDROME

What is it?

"Overactive bladder syndrome is quite common. About one in eight people have it," says Dr Hemanth. Overactive bladder is very different from benign prostatic hyperplasia in that there is no obstruction to the bladder outlet. "It happens when someone has a bladder that contracts all the time, even when it's only half full. Some people may experience urge incontinence which can be quite distressing. The exact cause of it remains unknown."

Diagnosis

Dr Hemanth says, "You will be asked to complete a voiding diary, which means you'll be recording the time and volume of each void for at least 24 hours. Based on that, the doctor can figure out the amount of fluid going in and out. A normal person should not void more than eight times a day." A medical history, ultrasound, urine test and blood test will also be done to rule out any other underlying medical issues.

Treatment

The first line of treatment for overactive bladder is behavioural therapy. Kegel exercises help strengthen the pelvic floor muscles and prevent the bladder from contracting involuntarily. Bladder training and scheduling toilet trips could be helpful too.[6] Pharmacological options are available; a doctor may prescribe the appropriate medication if necessary.

NOCTURAL POLYURIA

What is it?

Nocturnal polyuria happens when someone produces more urine at night than one should, while overall urine output throughout the day remains normal. If a person produces more than one third of total daily urine volume at night, he or she has nocturnal polyuria.[1] It is a pressing and prevalent problem with studies showing nocturnal polyuria to be the cause of up to 88% of all nocturia cases.[7]

The anti-diuretic hormone (ADH), which is produced in the brain, works to concentrate the urine by reabsorbing water. In most people, ADH is released in higher amounts at night. But in some individuals, not enough ADH is released or there is a deficiency of it during bedtime, causing the person to overproduce urine at night.

Diagnosis

A doctor will begin by taking a full medical history. Then the patient will have to complete a voiding diary, which is also useful in differentiating the causes of nocturia into global polyuria, nocturnal polyuria, reduced bladder capacity and mixed causes.[8] Again, the doctor will likely perform a routine blood test and urine test to rule out other medical conditions.

Treatment

The doctor will recommend cutting back on fluid intake in the evening and limiting caffeine and alcohol consumption (especially later in the day). Beyond that, the doctor can prescribe effective medications. This includes ADH agonists that act by mimicking ADH or vasopressin, which helps the body reabsorb more water at night.

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