A poll on bmj.com asked
Should we treat lower urinary tract symptoms without a definitive diagnosis?"
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Should we treat lower urinary tract symptoms without a definitive diagnosis?

Paul Abrams argues that invasive investigations are unnecessary and impractical for most patients, but **Julian Shah** thinks they are essential for successful treatment

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YES

Lower urinary tract symptoms (LUTS) are common in the general population, their main causes (including overactive bladder and benign prostatic obstruction) are not life threatening, definitive diagnosis is invasive, and initial management is safe. Initial treatment of the symptoms without a definitive diagnosis is therefore sensible and avoids unnecessary secondary care.

Defining the problem

Around 1.8 billion men and women worldwide have LUTS, and the numbers are increasing rapidly as the population ages.[1] The term was introduced in 1994 to escape the "prostate-centric" approach of doctors to lower urinary tract symptoms in men, which led to many men having unnecessary prostate surgery when their symptoms had other causes.[2] Later, the International Continence Society divided symptoms into three categories: storage LUTS, including the symptoms of overactive bladder (urgency, urgency urinary incontinence, frequency, and nocturia) and stress urinary incontinence; voiding LUTS, including slow stream and hesitancy; and post-micturition LUTS, such as a feeling of incomplete emptying and post-micturition dribble.[3]

LUTS affect patients in many ways.[4 5] Although symptoms can be bothersome and interfere with quality of life,[4 5] not all patients are troubled enough to seek treatment. However, there is undoubtedly considerable unmet need, and some data show that many patients have failed to get treatment, even when they would be happy to accept it.

Urodynamic studies are needed to determine the underlying causes of LUTS. Such studies require the passage of a urethral catheter and are therefore uncomfortable for patients as well as expensive. Given the large numbers of people with LUTS who seek medical care, treatment without a definitive diagnosis is the only practical way of managing most patients. Furthermore, my experience is that patients are unlikely to agree to an invasive, uncomfortable investigation if the management they are offered is simple, safe, and relatively inexpensive. Successive international consultations have recommended that urodynamic studies are used only if invasive treatments are being considered.[6 7] Most patients with symptoms that interfere with their quality of life can be managed

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NO

The term "lower urinary tract symptoms" (LUTS) was coined to cover the variety of symptoms that affect the bladder. The symptoms may be storage or emptying symptoms or both. It was initially introduced because of the potential difficulty with terms such as "prostatism," which described bladder symptoms in older men that were thought to be due to prostatic enlargement. Unfortunately, the term has been extended to apply to any patient, male or female, young or old, with urinary symptoms. The other arguably misleading term that has come into common parlance is "overactive bladder." Both these terms are non-specific, non-diagnostic descriptions of symptom complexes. Yet their widespread use can easily lead to treatment being decided without any knowledge of the underlying condition.

From a clinical point of view, the term prostatism is more useful. Although it is also non-specific, it applied to a specific patient group—older men with prostatic enlargement with symptoms usually caused, but not always, by obstruction. But even this cannot be used to determine treatment without urodynamic studies.

Prostatic enlargement is the most common cause of lower urinary tract symptoms in older men,[1] and the most effective treatment is surgery. Nevertheless, a large case series of 3830 patients with LUTS showed that symptoms are not always caused by bladder outflow obstruction[2] and urodynamic studies are necessary for diagnosis. This particularly applies to specific patient groups such as young men,[3] diabetic patients,[4] those who have had a stroke,[5] and men with small prostates.[6]

But what about other patients with symptoms of bladder dysfunction? In some patients the symptoms may be short term and could be due to an acute condition such as prostatitis or urinary infection. The diagnosis in these circumstances may be easier. However, for patients with chronic symptoms, the cause could be a condition that could last a lifetime, such as an unstable bladder, and this can only be determined definitively with urodynamics. Furthermore, not all men with prostatic obstruction require surgery. Urodynamics may, for example, show poor bladder contractility due to chronic bladder distension, which is

by a combination of lifestyle interventions, behaviour modification, and drugs.

Conservative treatment

A definitive diagnosis is not needed to start many of the simple interventions that benefit patients with LUTS. Lifestyle modifications include measures such as manipulation of fluid and food intake. Many patients drink far more fluids than they need, partly because of publicity of the false perception that we need to drink 2 litres of water a day. It has been shown that restricting fluid intake improves symptoms of overactive bladder.[8] There is also evidence that stopping caffeine helps many people with overactive bladder, possibly because caffeine is a mild diuretic and also a direct smooth muscle stimulant.[9]

Overactive bladder with or without urgency incontinence is improved by pelvic floor exercises because contraction of the pelvic floor increases urethral closure pressure, thereby maintaining the pressure gradient essential for continence. Furthermore, contracting the pelvic floor inhibits the detrusor contractions that are responsible for the symptoms of overactive bladder. Overactive bladder is also improved by bladder training—that is, by asking the patient to void every one hour initially and, if

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that controls their urgency and incontinence, then increasing their inter-void intervals by 15 minutes, at intervals of two to three days, until the patient can void safely, without bothersome symptoms, at socially acceptable intervals.

Prostatic obstruction, and its associated symptoms, can be partly relieved by α adrenergic blocking drugs and 5α reductase inhibitors. Overactive bladder may be improved by antimuscarinic drugs and nocturia by judicious use of desmopressin.

LUTS are not dangerous, for the most part, although certain symptoms should alert clinicians to the need for further investigation. These include haematuria, dysuria, and new onset nocturnal incontinence, and signs such as an enlarged bladder. However, even conditions like prostatic obstruction, which were previously thought to be potentially dangerous and to need early treatment, have been shown in longitudinal studies to be relatively benign and show little progression.[10 11]

Best management

The treatments for LUTS mentioned above are low risk and, for the most part, low cost. Hence, neither the National Institute for Health and Clinical Excellence's guidelines on incontinence[12] nor its guidance on male LUTS[13] recommend seeking a definitive diagnosis before treatment of symptoms in men or women.

In future the aim should be to teach men and women self care as initial management. This would require the production of psychometrically validated self care packages, which are safe to use and clearly indicate when medical care should be sought. All doctors can continue to treat LUTS without a diagnosis. If symptoms remain bothersome, referral for a urodynamic diagnosis is mandatory if the patient wishes to consider invasive treatments.

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best treated by intermittent self catheterisation rather than surgery if there is significant retained urine.[7]

Need for firm evidence

Objective evidence should be obtained in all men with voiding problems, such as slow stream or hesitancy. Non-invasive tests include free urine flowmetry and ultrasound residual urine measurement.[8] A non-invasive penile cuff test can show the pressure-flow relation and help make a diagnosis.[9] However, urodynamic studies, which also show the relation between pressure and flow (with x ray screening of the bladder outlet, when available) still remains the gold standard for diagnosis of obstruction.[10] Numerous studies show that non-invasive tests are not able to diagnose obstruction sufficiently accurately to enable surgical intervention, with only 26% of men being obstructed when symptom scores and non-invasive tests are used to predict obstruction.[11] A recent review by Parsons et al concluded there is "insufficient evidence to justify replacement of invasive voiding cystometry."[12]

A primary diagnosis by appropriate urodynamic testing can provide an understanding of the patient's condition and direct long term management. The benefit of a correct diagnosis is that the outcome from surgery is likely to be better, and if surgery is deferred in favour of conservative management at least this is with a knowledge of bladder function. The risk of retention in an obstructed man is 2% a year, and this prediction is useful in long term management, especially in younger men.

This approach is preferable to the treatment of symptoms without a definitive diagnosis. Symptoms are generally not resolved by "best guess" medical management. A systematic review has shown that 43% to 83% of patients discontinue medical treatment within 30 days.[13] Such treatment could be argued to be a serious waste of resource. If we cannot provide long term benefit for patients with LUTS what is the point of short term treatment? Surely, this is an unsatisfactory way of treating patients unless they are clearly told that the treatment is an experiment. It could be argued that because many patients with untreated bladder outflow obstruction do not deteriorate in the long term, making a diagnosis is critical to providing them with the necessary reassurance they need. If obstruction is not present there would be no purpose in advising unnecessary treatment based on symptoms alone.[14 15]

So how should we approach the problem? We should continue to debate the relevance of terminology. It is interesting how terms come into parlance because of the enthusiasm of a particular group only to be replaced later when such enthusiasm wanes or evidence shows that the terminology is misleading.

LUTS should not be treated without a clear diagnosis. Knowledge of the underlying cause will enable appropriate management, improve the likelihood of compliance with treatment or allow selection for surgical intervention, and provide a better clinical outcome.

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