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Botox for overactive bladder – a perfect treatment?

INVITERT KOMMENTAR

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Botox can be a wonder drug for many conditions, but it is important to be aware of potential pitfalls and how they can easily be avoided. In some cases, the treatment may be simply too effective, with one symptom being replaced by another.

Treatment with intravesical injection of onabotulinumtoxinA has been used in urology since the late 1980s, when it was first administered to patients with spinal cord injuries and neurogenic lower urinary tract dysfunction. Injections were initially administered to the external urethral sphincter and later also into the bladder wall to reduce uncontrolled overactivity.

In 2013, Botox was approved by the US Food and Drug Administration (FDA) for use in patients with so-called overactive bladder, defined as urgency, with or without increased urinary frequency and urgency urinary incontinence *without* an identifiable underlying cause, with or without demonstrable detrusor overactivity on urodynamic testing (1).

Over the past 10–15 years, treatment of overactive bladder with onabotulinumtoxinA has become a common therapeutic option at most urology departments in Norway. When given to appropriately selected patients, it is usually highly effective and well tolerated.

In a report by Schiøtz and Myhr in this edition of the Journal of the Norwegian Medical Association, 76 % and 71 % of women treated for neurogenic urinary incontinence were satisfied with the treatment and achieved continence, respectively (2). Could the success rates have been even higher?

The article does not specify how overactive bladder was diagnosed but notes that patients had previously undergone unsuccessful conservative treatment (2). Urinary tract infection was reported in 12 % of the patients and the need for catheterisation in 6.5 %. The former was defined as a treated suspected or confirmed infection, while the latter was less clearly defined (2). Patients with bladder emptying problems were included, but it is unclear whether all were assessed for postvoid residual (PVR) or what threshold was used.

Patient dissatisfaction after onabotulinumtoxinA treatment for overactive bladder may have several causes. Key factors that are straightforward to avoid in routine practice include confirming the correct diagnosis, ensuring adequate patient education before treatment and performing thorough post-treatment evaluation.

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A 2021 study confirms a common observation in clinical practice: many patients with a referral for 'overactive bladder refractory to conservative treatment' do not always have an overactive bladder, but another disorder within or outside the lower urinary tract (3). In urology, the bladder is often described as an 'unreliable witness', as symptoms from the lower urinary tract are non-specific and can stem from a variety of conditions in both women and men (4–6).

Severe urinary urgency, urinary frequency and urgency incontinence can indicate bladder disorders, including both *underactive* and *overactive* bladder, but may also be due to cystitis, bladder stones or bladder cancer. However, conditions affecting bladder emptying (functional or anatomical bladder outlet obstruction) or disorders in other organ systems, such as heart failure, sleep apnoea, diabetes insipidus or pudendal neuralgia, can also cause these symptoms (5,6). Patients who do not respond to conservative treatment for overactive bladder should therefore undergo more thorough evaluation. Serati et al. compared two groups of women with overactive bladder symptoms (3): one group underwent urodynamic investigations, the other did not. As expected, the urodynamic evaluation revealed that some patients did not have overactive bladder, but other underlying conditions. The treatment was adjusted accordingly, and patient satisfaction subsequently increased.

Another cause of poor subjective response following onabotulinumtoxinA treatment is undetected PVR. Even if a patient achieves a good objective response to the treatment, with a significant increase in bladder capacity, persistent high residual volumes may prevent them from experiencing this effect as a meaningful subjective improvement. As a result, they may continue to experience severe urgency, urinary frequency and possibly incontinence.

A recent study found that the combination of urodynamic factors, pre-treatment PVR and older age was a predictor of elevated PVR following onabotulinumtoxinA treatment for overactive bladder (7). As the bladder may be an 'unreliable witness', patients are unable to identify incomplete emptying without clinical assessment by bladder scan or catheterisation. PVR should therefore be measured after each treatment, and patients could be trained, ideally beforehand, to do this themselves using clean intermittent self-catheterisation. Follow-up PVR assessments at one and two weeks post-treatment are recommended, when the effect of onabotulinumtoxinA is maximal. For patients wishing to avoid potential complications such as PVR and urinary tract infection, referral for sacral neuromodulation may be considered.

OnabotulinumtoxinA can be effective for overactive bladder, but patient satisfaction with treatment could be improved by ruling out other diagnoses with similar symptoms and providing thorough post-treatment evaluation.

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