When would you start a patient on pharmacotherapy for urinary incontinence? What are first- and second-line options?

First, says Dr. Mehnert, a proper investigation should be performed to identify the type of incontinence. “Sometimes anatomical/functional abnormalities/deformations, i.e. pelvic organ prolapse, vesico-vaginal fistulas, or neurogenic or traumatic urethral and sphincteric insufficiency, that might be so far undiscovered can cause incontinence and would be very well treated with an adequate surgery instead of frustrating attempts to treat the patient with oral drugs.” Dr. Mehnert also says it is important early on to discuss the level of discomfort the incontinence is causing and the patient’s expectations.

Pharmacotherapy for urinary incontinence can be divided into oral treatment including antimuscarinics (oxybutynin, etc.) or duloxetine, and invasive treatment, like intradetrusor injection with botulinum toxin A. “My personal first line option, if I think an antimuscarinic drug is indicated, is still oxybutynin, as this is the most potent antimuscarinic drug. If it is not well tolerated—it has a little higher incidence of adverse events, such as dry mouth, constipation, accommodation difficulties, etc., compared to newer drugs of this class—but is nevertheless working well, I would try a newer antimuscarinic (e.g. solifenacin), with a lower adverse event risk.”

In general, it makes sense to try at least one more drug if the first fails, as some patients suddenly report treatment success, Dr. Mehnert says. Alternative therapies for incontinence (first and second line), depending on the kind and severity of incontinence, include conservative methods like: penile sheaths, adequately adapted incontinence pads, or pants with high absorption capacity and without rewetting. Invasive methods include: botulinum toxin A injections, sacral neuromodulation, urethral injection of bulking agents, vaginal slings, artificial sphincter implant, sacral deafferentation in combination with an implanted neurostimulator (nearly only suitable for tetraplegic patients), and even more invasive surgeries like bladder augmentation. Ultimate choice of treatment depends on the incontinence form and the physical and psychic condition of the patient.

Of importance, Dr. Mehnert notes there is little to no data available for the use during pregnancy and/or breastfeeding period for most pharmacological treatments (including botulinum toxin A). “Therefore care should be taken if a patient is pregnant, is planning to become pregnant, or is currently breastfeeding, before considering pharmacological treatment. Especially for botulinum toxin A, as it has a duration of effect of approximately six to eight months.”

What are short- and long-term risks associated with incontinence? Are there interventions to prevent/manage these, specifically?

Risks associated with incontinence include skin problems (especially in the elderly and those in institutional settings), low quality of life, low self-esteem, negative impact on sexual health, depression, and social isolation. “Some patients stop sports activity due to their incontinence, which causes loss of social connection and fitness. I think there are more long-term risks, which develop over several weeks or months,” Dr. Mehnert says.

Skin protection requires that the skin around the urogenital area is dry and receives fresh air. Moisturizing or re-fatting creams without perfume or alcohol can help if redness of the skin develops due to constant contact with urine. “To prevent long-term risks of incontinence, it is important to educate and inform patients and persons who care for incontinent people that there are certain treatment options and that they should consult a specialist in this field to discuss the best solution for their condition,” Dr. Mehnert says.

Since incontinence can be extremely embarrassing to some, neurologists should remember how badly a patient’s pride can be damaged. “In contrast to a heart surgery or a sports injury, incontinence is a health condition you do not want to talk about with your neighbor or any other person, often not even with your partner,” according to Dr. Mehnert. “Due to the shamefacedness in this issue, it is very important for many patients to have a doctor who is trustworthy and sensitive.” Social withdrawal and depression make it much more difficult to treat incontinence, he adds.

Physicians should also be aware that recurrent urinary tract infections can cause incontinence, despite proper treatment and should be evaluated thoroughly. “If antibiotic treatment is necessary, it should be implemented after determination of the bacte-
When would botulinum toxin A be appropriate for a urinary incontinence patient?

In general, a proper uro-gynecological and/or neurological investigation has to be performed to make a correct diagnosis of the form of the presenting incontinence. “I would consider botulinum toxin A for urinary incontinence in adults only if it is urgency urinary incontinence (UUI) or incontinence due to an urodynamically proven detrusor overactivity (DO),” Dr. Mehnert says. If one of these incontinence forms is present, he first tries to treat the condition with oral antimuscarinics drugs like oxybutynin, trospium chloride or darifenac, as described above. “Only if the UUI or DO is not adequately treatable or the patient does not tolerate antimuscarinics would I consider botulinum toxin A for treatment,” he says.

Informed consent is important before treating UUI or DO with botulinum toxin A. Patients should be fully informed about the “off-label” use of botulinum toxin in this indication, he recommends, and each patient should be prepared to perform clean intermittent self-catheterization as the treatment, depending on the dose and the underlying incontinence pathology, can increase post void residual volume and can cause urinary retention. The latter occurs much more often in patients with neurogenic bladder dysfunction. Patients with non-neurogenic overactive bladder rarely need to perform regular intermittent self-catheterization as they often void voluntarily without performing it.

If clean intermittent self-catheterization cannot be performed due to impaired hand or arm function (e.g. tetraplegic patients), a different urinary diversion (e.g. suprapubic catheter) has to be discussed with the patient before botulinum toxin treatment. Prior to injection, Dr. Mehnert recommends the following causes be excluded: urinary tract infection, stones/calculi in the bladder, malignant process in the bladder or urethra. “In patients with concomitant bladder outlet obstruction, the outlet obstruction has to be carefully evaluated and, if appropriate/necessary, removed before intradetrusor injection with botulinum toxin A is considered or performed,” he says.

Dr. Mehnert says patients should also be informed that botulinum toxin A is a symptomatic treatment and it might be necessary to repeat therapy every six to 10 months. “Although botulinum toxin A has excellent efficacy with little to no systemic side effects and some transient local side effects (e.g. injection site pain, mild hematuria, urinary tract infection), it is difficult to use or proclaim it as a first line treatment, as it is not approved for intradetrusor injections either by the FDA nor any European pharmaceutical authority,” he says.

Standardization of the botulinum toxin injection remains somewhat unanswered. How often and at what doses would you administer?

The duration of effect is reported to be on average eight months in patients with neurogenic DO and on average six months in patients with idiopathic DO. “The duration of effect seems to be dose dependent. I would consider reinjection if the patient reports a significant reduction in efficacy in the absence of urinary tract infection,” Dr. Mehnert says. A urinary tract infection can significantly diminish the toxin effect and should be treated or better prevented by a proper prophylaxis scheme and education. However, he notes, he would not perform a reinjection before three months after the last injection to reduce the chance of antibody formation, even though the chance of antibody formation is in his words “quite low.”

Regarding the dose, Dr. Mehnert warns it’s very important to consider that there are different preparations of botulinum toxin A on the market worldwide, and doses cannot be compared or translated one-to-one. “In neurogenic patients with DO (e.g. paraplegic patients), who will probably not be able to perform voluntary voiding and who are already on self catheterization or have a suprapubic catheter, I would inject 300 units of Botox,” he says. In patients who might still have preserved voluntary voiding function and urgency is the most bothersome problem, he would start with 100 units Botox. “In patients with non-neurogenic overactive bladder, I would also start with 100 units of Botox, which is to my experience effective enough and reduces the chance of high post-void residual volumes.”

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