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European Association of Urology

Letter to the Editor

Re: Benoit Peyronnet, Emma Mironska, Christopher Chapple, et al. A Comprehensive Review of Overactive Bladder Pathophysiology: On the Way to Tailored Treatment. Eur Urol 2019;75:988–1000

Overactive Bladder Symptoms Can Be Caused by Pelvic Organ Prolapse

In the face of high rates of discontinuation of medications for overactive bladder (OAB), Peyronnet et al. [1] propose future tailored treatment for OAB. They also state that there is no known cure for OAB. Yet many experienced pelvic floor surgeons such as ourselves know that OAB symptoms—even those posing a severe burden—co-occur with pelvic organ prolapse (POP) and can be predictably cured in a high percentage of cases via ligament reconstruction surgery, even in instances in which the prolapse is minor [2–4]. This association was first mentioned in the German literature by Heinrich Martius (citation in [3]) and independently in the English literature by Petros and Ulmsten [5], whose integral theory incorporates a significant number of the pathophysiologies proposed by the authors, in particular, urothelial stretch receptors, afferent feedback loops, and hormone deficiency, except that the ultimate pathogenesis is lax ligaments [5]. Ligaments are the insertion points of the bidirectional closure muscles that stretch the vagina to support the urothelial stretch receptors. Loose ligaments mean weak muscle forces, a failure to support stretch receptors from below, increased afferents to the cortex, and premature activation of the micturition reflex, which the cortex interprets as urgency (OAB). Hormone deficiency in the menopause causes leaching of collagen from ligaments, so they loosen, explaining the onset of OAB, POP, and other symptoms after menopause. The theory therefore predicts that OAB can be surgically cured via ligament reconstruction.

Numerous studies [3] have confirmed these predictions [5]. One well-validated example is the Propel study [4], which showed that women with posterior/apical prolapse tended to have more moderate to severe OAB complaints than those with anterior/apical prolapse (daytime urinary frequency, 53.4% vs. 43.0%; urgency, 49.6% vs. 45.1%; urgency incontinence, 43.7% vs. 33.1%; nocturia, 53.3% vs. 44.4%). Likewise, patients with stage 2 versus stage 3–4 POP had more moderate to severe symptoms in all four OAB symptom domains preoperatively. The surgical cure rates for moderate to severe OAB with major POP ranged between 60% and 80%, with a durable improvement noted over a period of 24 mo. Patients with successful reconstruction (POP stage 0–1 at any follow-up time in all compartments) had significantly higher cure rates than those who did not meet these criteria.

The integral system [2,5,6] also explains the co-occurrence of OAB and underactive bladder symptoms in approximately 50% of cases, which is typical for women with POP. Symptoms of abnormal emptying of the bladder can be explained by reduced opening forces of the posterior pelvic floor muscles during micturition in women with POP. Surgical cure of both OAB and underactive bladder symptoms in women with POP [2–6] goes some way towards proving the concept [5] that loose ligaments reduce muscle forces and urethral opening/closure function.

It is time to recognize that ligament laxity (POP) is an important cause of OAB and for which there is a strong scientific basis [2]. This means that many women can be offered a long-lasting surgical cure for their OAB symptoms that avoids the side effects of pharmacological treatments and restores their quality of life.

Conflicts of interest: Klaus Goeschen has nothing to disclose. Bernhard Liedl has received honoraria for pelvic floor workshops (Uphold) and lectures from Boston Scientific and an honorarium for data collection during the Propel study from American Medical Systems. Florian Wagenlehner has received personal fees from Archagon, AstraZeneca, Janssen, Leo Pharma, MerLion, MSD, OM Pharma/Vifor Pharma, Pfizer, Rosen Pharma, Shionogi, VenatoRx, and GSK; has participated in studies conducted by Archagon, AstraZeneca, Enteris BioPharma, Helperby Therapeutics, OM Pharma/Vifor Pharma, Shionogi, and Deutsche Zentrum für Infektionsforschung; and participates in advisory boards for Archagon, AstraZeneca, OM Pharma/Vifor Pharma, and Shionogi.

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Bernhard Liedl[a,*]
Klaus Goeschen[b]
Florian Wagenlehner[c]

[a]*Urologische Klinik Planegg, Planegg, Germany*
[b]*Medical University of Hannover, Hannover, Germany*
[c]*Klinik für Urologie, Andrologie und Kinderurologie, Justus-Liebig-Universität Gießen, Gießen, Germany*

*Corresponding author. Urologische Klinik Planegg, Germeringer Strasse 32, Planegg 82152, Germany. Tel. +49 179 5184178; Fax: +49 89 85693255.
E-mail addresses: bernhard.liedl@t-online.de (Bernhard Liedl). liedl@ukmp.de (Bernhard Liedl).