

Pudendal nerve entrapment and recurrent urinary tract infection: Is there a link?

Fouad Aoun^{1,2,3} , Albert Semaan^{2,3} , Georges Mjaess³ , Fabienne Absil⁴ , Renaud Bollens^{5,6} 

Cite this article as: Aoun F, Semaan A, Mjaess G, Absil F, Bollens R. Pudendal nerve entrapment and recurrent urinary tract infection: Is there a link? Turk J Urol 2020; 46(5): 410-1.

ORCID iDs of the authors:

F.A. 0000-0002-8291-4302;
A.S. 0000-0001-8915-5970;
G.M. 0000-0002-8703-4611;
F.A. 0000-0001-5224-6772;
R.B. 0000-0003-0068-0854

¹Department of Urology,
Institut Jules Bordet, Brussels,
Belgium

²Department of Urology,
Hotel-Dieu de France, Beirut,
Lebanon

³Université Saint Joseph, Beirut,
Lebanon

⁴Gynecology Department,
EpiCURA Hospital, Ath,
Belgium

⁵Department of Urology,
Université Nord de France, St
Philibert Hospital, GHICL, Lille,
France

⁶Wallonie Picarde Hospital,
Tournai, Belgium

Submitted:

24.04.2020

Accepted:

23.05.2020

Available Online Date:

02.07.2020

Corresponding Author:

Fouad Aoun
E-mail:
fouad.aoun@bordet.be

©Copyright 2020 by Turkish
Association of Urology

Available online at
www.turkishjournalofurology.com

Dear Editor,

Recurrent urinary tract infection (UTI) is defined as ≥ 2 episodes in the last 6 months or ≥ 3 episodes in the last 12 months.^[1] It is a chief complaint in urogynecology clinics, often with an unsatisfied patient and a frustrated physician. Several prophylactic behavioral/pharmacological measures are recommended without significant benefit. Recently, we retrospectively witnessed tremendous improvement of recurrent UTI in five female patients after laparoscopic treatment of pudendal nerve entrapment (PNE). These five patients (median age 50 years) had a coexistence of recurrent UTI alongside essential Nantes diagnostic criteria of PNE.^[2] All were free of UTI episodes for 12 months after surgery, with no prophylactic therapy. Besides improvement of their PNE symptoms, they noticed an enhanced urinary flow and a decreased daytime pollakiuria. Is there any link between PNE and recurrent UTI? Herein, we present our theory to be examined in further clinical trials.

Complete voiding with a good flow eliminates the ascending perineal colonizing bacteria toward the bladder and limits lower UTI. One out of two females with dysfunctional voiding patterns has recurrent UTI.^[3] Inversely, females with recurrent UTI have a higher prevalence of lower urinary tract dysfunction with increased urethral sphincter tone, decreased urinary flow, vesico-sphincteric dyssynergia, and pelvic floor muscle contraction.^[4] Some trials reported an efficacy of pelvic floor relaxation therapy of 85%.^[5] Therefore, scientific societies (e.g., Society of Urodynamics,

Female Pelvic Medicine, and Urogenital Reconstruction) promoted in their guidelines pelvic floor muscle training for women with recurrent UTI and voiding dysfunction.

Pudendal nerve has three branches. Its perineal branch carries motor innervations to the external sphincter and areas of the perineal muscles. Patients with PNE may have voiding dysfunction and/or pelvic muscle contraction. These patients are usually offered pudendal nerve block/release. There are no data on PNE and recurrent UTI in female patients. PNE is an underdiagnosed disease, on the basis of restrictive criteria elaborated at the time of invasive surgeries.^[2] The advent of laparoscopic approach widened the indication of pudendal nerve release, and several patients are operated for urinary dysfunction without having all essential Nantes criteria. It would be interesting to examine the effect of pudendal nerve block in patients with recurrent UTI. Of note, none of the five patients had urinary complaints before surgery (outside UTI episodes) but noticed an improvement of the urinary stream and bladder emptying after surgery. Clinicians treating patients with recurrent UTI are advised to examine pelvic floor muscles to search for voiding dysfunction and features of PNE.

References

1. Akgül T, Karakan T. The role of probiotics in women with recurrent urinary tract infections. Turk J Urol 2018;44:377-83. [\[Crossref\]](#)
2. Labat JJ, Riant T, Robert R, Amarenco G, Le-faucher JP, Rigaud J. Diagnostic criteria for

- pudendal neuralgia by pudendal nerve entrapment (Nantes criteria). *Neurourol Urodyn* 2008;27:306-10. [\[Crossref\]](#)
3. Carlson KV, Rome S, Nitti VW. Dysfunctional voiding in women. *J Urol* 2001;165:143-8. [\[Crossref\]](#)
 4. Lee PJ, Kuo HC. High incidence of lower urinary tract dysfunction in women with recurrent urinary tract infections. *Low Urin Tract Symptoms* 2020;12:33-40. [\[Crossref\]](#)
 5. Minardi D, d'Anzeo G, Parri G, Polito M, Piergallina M, El Asmar Z, et al. The role of uroflowmetry biofeedback and biofeedback training of the pelvic floor muscles in the treatment of recurrent urinary tract infections in women with dysfunctional voiding: a randomized controlled prospective study. *Urology* 2010;75:1299-304. [\[Crossref\]](#)