

Urethral Fibrosis as an Etiology of Female Bladder Outlet Obstruction

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BRIEF HISTORY

An 83 year-old woman had chronic recurrent urinary retention for 30 years. She regularly received indwelling catheterization for a couple of weeks and then removed it. Difficult urination and slowed stream would develop several months after removal of the catheter, culminating in another episode of urinary retention. She was introduced to me and a videourodynamic study was performed. High voiding pressure, low flow rate and a narrow distal urethra were noted (Fig. 1). She was treated with urethral botulinum toxin A 100 units (Botox, Allergan, Irvine, USA) injection. After the Botox injection, the maximum flow rate improved and voiding pressure was reduced but postvoid residual urine continued to exceed 100mL. The Botox response lasted for only 6 months and then urinary retention developed again. Before the second urethral Botox injection, urethral muscle biopsy was performed. The histopathologic findings revealed chronic fibrosis and atrophic muscle fibers in the urethral sphincter (Fig. 2). This patient's partial response to the urethral Botox injection is related to these histopathologic findings.

DISCUSSION

Female bladder outlet obstruction (BOO) is not uncommon in women with lower urinary tract symptoms that are refractory to treatment [1]. Urethral fibrosis has not been reported among the various etiologies of BOO [2]. This report demonstrates that urethral fibrosis is a possible etiology of BOO in women. Because of the fibrosis and atrophic change of urethral sphincter, botulinum toxin can only be partially effective in reducing urethral resistance and resuming spontaneous

voiding for the short term. Serial urethral dilatation or optic urethrotomy could be alternatives for treating this type of female BOO.

REFERENCES

1. Kuo HC: Videourodynamic characteristics and lower urinary tract symptoms of female bladder outlet obstruction. *Urology* 2005; **66**: 1005-1009.
2. Blaivas JG, Groutz A: Bladder outlet obstruction nomogram for women with lower urinary tract symptomatology. *Neurourol Urodyn* 2000; **19**:553-564.

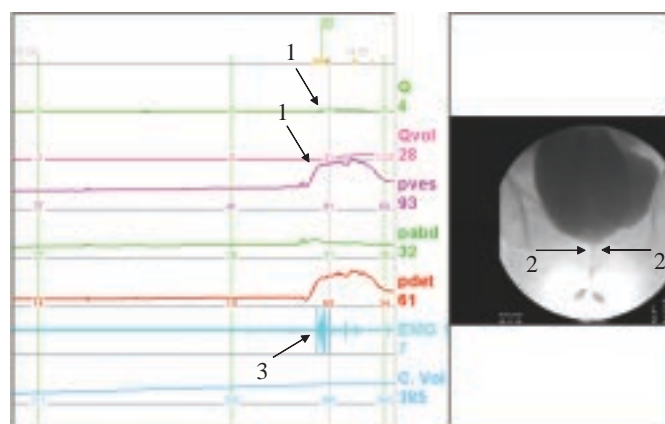


Fig. 1. Videourodynamic study revealed high voiding pressure, low flow rate (1) and a narrow distal urethra (2) during voiding. The urethral sphincter electromyographic coordination was normal (3).

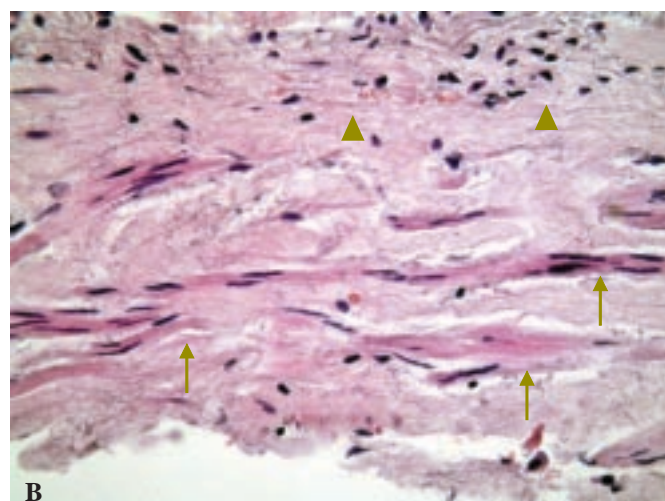
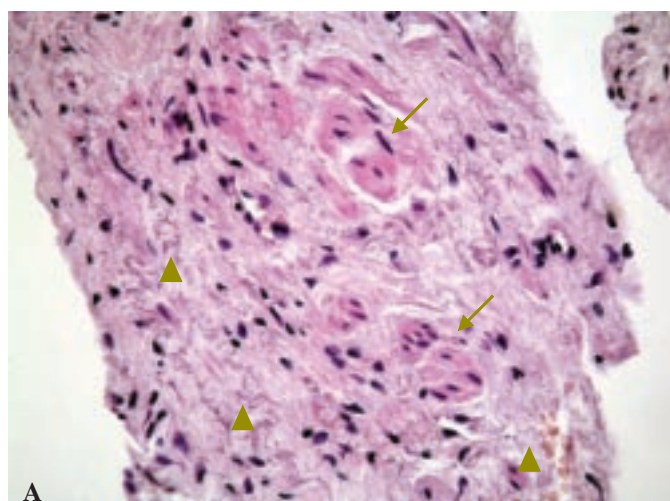


Fig. 2. Urethral sphincter muscle biopsy revealed (A) scattered muscle fibers (arrows) and fibrosis between the muscle bundles (arrow heads) and (B) the atrophic muscle bundles (arrows) with diffused collagen fiber and chronic inflammation (arrow heads). H-E stain (A) $\times 100$, (B) $\times 200$