Chronic constipation and acute urinary retention

Toshimi Chiba^a, Satoshi Kikuchi^b, So Omori^c and Koji Seino^c,

^aDivision of Internal Medicine, Department of Oral Medicine, Iwate Medical University, ^bDepartment of Gastroenterology and ^cDepartment of Urology, San-ai Hospital, Morioka, Japan

Correspondence to Toshimi Chiba, MD, PhD, Division of Internal Medicine, Department of Oral Medicine, Iwate Medical University, 19-1 Uchimaru, Morioka, Iwate 020 8505, Japan

Tel: +81 19 651 5111; e-mail: toschiba@iwate-med.ac.jp

Received 28 August 2020 Accepted 19 September 2020

Although constipation and urinary retention are sometimes observed simultaneously, the pathophysiology of their relationship is not well clarified. A 70-year-old man visited our hospital complaining of lower abdominal pain, urinary retention, and constipation. He had mild prostatic hyperplasia, and computed tomography revealed rectal dilation with a distended urinary bladder (Fig. 1a and b). His pain improved after urethral catheterization and removal of impacted stool. He was prescribed lubiprostone and polyethylene glycol for his constipation, after which his urinary retention did not recur.

Chronic constipation can be divided into three broad categories: normal-transit constipation, slow-transit constipation, and defecatory or rectal evacuation disorders [1]. The associated with urinary retention might be considered slow-transit constipation and defecatory or rectal evacuation disorders, which can lead to dilation of the distal colon. The causes of acute urinary retention in adults include obstruction of the lower urinary tract by benign prostatic hyperplasia, neurologic disease caused by diabetes mellitus, spinal cord injury, and the adverse effects of medications such as anticholinergics or antihistamines. Acute urinary retention with constipation has been reported in children [2,3]. The association of chronic constipation and acute urinary retention might be explained by the effects of a chronically dilated rectum, irritation of the vesical trigone, invagination of the posterior wall of the bladder, and urethral obstruction [2]. The pathophysiology of this association can also be explained by the anatomical proximity of the bladder to the rectum and their shared innervation: nerve roots S2-S4 control motor function of the external anal and urinary sphincters [3]. Chronic rectal retention of feces could also lead to involuntary contraction of the pelvic floor muscles and the external anal sphincter, making bladder emptying difficult [3]. In rats, distension of the rectum using a balloon diminishes bladder contractility, which

European Journal of Gastroenterology & Hepatology 2022, 34:e1-e2

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

OPEN





Fig. 1. Computed tomography findings. (a) Rectal dilation (white arrows). (b) Distended urinary bladder (white arrows).

mediates the spinal micturition reflex via glycinergic or GABAergic mechanisms [4]. In a study of women with constipation, the researchers found that evoked sacral reflexes are absent, leading to urodynamic abnormalities such as increased bladder capacity, acontractile bladder musculature, and genuine stress incontinence. These women also have a decreased rectal sensory threshold and a decreased frequency of relaxation of the external anal sphincter during defecation compared with controls, which might cause difficulty with bowel movements. Integration of sensory information within the sacral spinal cord may be impaired in individuals with chronic idiopathic constipation [5].

The relation between chronic constipation and acute urinary retention can be explained by various factors, making it difficult to arrive at a clear explanation of the mechanism. That said, clinicians should administer prompt and effective treatments for constipation to prevent acute urinary retention.

Acknowledgements

Informed consent was obtained from the patient for publication of this case report and any accompanying images.

T.C., S.K., S.O., and K.S. carried out all procedures described herein, confirmed the diagnosis, provided the details of the case, and contributed to the design of the report. T.C. drafted the manuscript. All authors have read and approved the final version of the manuscript.

Conflicts of interest

There are no conflicts of interest.

References

- 1 Lacy BE, Mearin F, Chang L, Chey WD, Lembo AJ, Simren M, Spiller R. Bowel disorders. *Gastroenterology* 2016; 150:1393–1407.
- 2 Chase JW, Homsy Y, Siggaard C, Sit F, Bower WF. Functional constipation in children. J Urol 2004; 171:2641–2643.
- 3 Averbeck MA, Madersbacher H. Constipation and LUTS how do they affect each other? *Int Braz J Urol* 2011; 37:16–28.
- 4 Miyazato M, Sugaya K, Nishijima S, Morozumi M, Ohyama C, Ogawa Y. Rectal distention inhibits the spinal micturition reflex via glycinergic or GABAergic mechanisms in rats with spinal cord injury. *Urol Int* 2005; 74:160–165.
- 5 Kerrigan DD, Lucas MG, Sun WM, Donnelly TC, Read NW. Idiopathic constipation associated with impaired urethrovesical and sacral reflex function. *Br J Surg* 1989; 76:748–751.

DOI: 10.1097/MEG.000000000001970