

Herpes zoster

Unusual cause of acute urinary retention and constipation

Difat Jakubovicz MSc MD CCFP FCFP Eric Solway MD CCFP Peter Orth MSc MD CCFP

Herpes zoster (HZ) is well known for its dermatomal rash and radicular pain. It is less commonly known for its effect on deeper viscera. Here we describe a case of sacral HZ associated with acute urinary retention and constipation.

Case

A 67-year-old man presented to the emergency department with painful vesicular eruptions on his right buttock that had been present for about 24 hours. He was diagnosed with HZ and discharged with a prescription for 1000 mg of valacyclovir 3 times a day for 7 days. The next day he presented to our family practice clinic with urinary frequency of approximately 20 times per day, small volumes of urine, and suprapubic discomfort but no dysuria. He had no history of prostatic hypertrophy and he had never experienced similar symptoms before. The urinary symptoms had started 2 days earlier and had not changed. His last bowel movement had occurred 2 days previously and was normal. During examination, his bladder was percussed midway to his umbilicus and he found this palpation uncomfortable. Vesicles were present on his right buttock in the S2 to S4 dermatomal distribution and did not cross the midline. There were no vesicles on his genitals. Findings of the physical examination were otherwise unremarkable. Urine dip results were negative for nitrites, blood, and leukocytes. Urine culture results were also negative for bacterial infection. Because he was still passing urine, albeit small volumes, he was sent home with a prescription for 5 mg of terazosin every night. He was counseled to return to the emergency department for urinary catheterization if he failed to pass any urine for a 24-hour period.

Five days later he again presented to our family practice clinic with constipation that had lasted 7 days. He reported that shortly after taking the terazosin, he had begun to urinate normally and as a result had stopped taking it after 3 days. However, he had felt no urge to pass stool since just before the herpetic eruption despite normal food intake. He was passing gas but with less regularity than usual. He admitted that he had been incontinent of small volumes of watery stool for the past week, which he attributed to his having taken senna concentrate to try and stimulate bowel function. Despite self-administered water enemas the previous day, he still had not passed any stool. He was otherwise well and did not have any abdominal pain or discomfort. A rectal examination revealed relatively poor resting anal tone, preserved voluntary squeeze, and an empty rectal vault. Abdominal x-ray scans obtained the next day revealed no abnormal gas pattern. He was prescribed 15 mL of lactulose twice a day until bowel movements returned to normal. Two days later he had his first normal bowel movement in 9 days.

EDITOR'S KEY POINTS

- The effects of herpes zoster (HZ) are not always limited to the commonly seen skin eruption. Sacral HZ, which makes up approximately 8% of all HZ presentations, is associated about half of the time with some form of urinary dysfunction and constipation.

- Patients with incomplete urinary retention might obtain benefit from an α_1 -adrenergic antagonist, such as terazosin, while constipation might be improved with lactulose. If an α_1 -adrenergic agonist is considered, a careful assessment of the benefits versus the risks (especially falls in older adults secondary to hypotension) should be made before prescribing.

- Constipation has been successfully treated with lactulose and antiviral medication.

POINTS DE REPÈRE DU RÉDACTEUR

- Les effets de l'herpès zoster (HZ) ne se limitent pas aux éruptions cutanées couramment observées. L'HZ sacré, qui représente environ 8 % de toutes les manifestations de l'HZ, est associé la moitié du temps à une certaine forme de dysfonction urinaire et de constipation.

- Les patients souffrant d'une rétention urinaire incomplète peuvent bénéficier d'un antagoniste adrénergique α_1 , comme la térazosine, tandis que la constipation peut être soulagée avec du lactulose. Si on envisage d'utiliser un agoniste adrénergique α_1 , il y a lieu de procéder à une évaluation rigoureuse des bienfaits par rapport aux risques (surtout le risque de chutes chez les adultes plus âgés dues à l'hypotension) avant de le prescrire.

- On a traité avec succès la constipation à l'aide du lactulose et d'un médicament antiviral.

This article has been peer reviewed.

Cet article a fait l'objet d'une révision par des pairs.

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Discussion

Herpes zoster is caused by reactivation of varicella-zoster virus (VZV). Primary infection with VZV results in the classic presentation of chicken pox. Following primary infection, the virus remains latent in the sensory dorsal root ganglia of the spinal cord and cranial sensory ganglia, from where it can reactivate. Typically a form of immunosuppression is thought to permit the virus to begin replicating again. Those older than 60 years of age are at 8 to 10 times greater risk of HZ, as cell-mediated immunity wanes in older age.¹

We searched MEDLINE using the following key words: *herpes zoster, shingles, bladder, urinary incontinence, bowel, constipation, and obstruction*. A number of case reports have described an association between sacral shingles and bowel or bladder dysfunction.²⁻¹⁰ One retrospective analysis of 423 inpatients with HZ found that 34 (8%) had sacral lesions. Of those, 14 (41%) had urinary voiding dysfunction symptoms. Seven (50%) of the patients with urinary voiding dysfunction also had constipation.³

The sensory neurons that innervate the skin of the sacral region, the bladder, and the distal two-thirds of the colon, and the parasympathetic motor neurons that innervate the same viscera, all converge at the S2 to S4 spinal level. It is believed that the ganglionic hemorrhage, necrosis, and inflammation of blood vessels caused by VZV reactivation can, in some cases, propagate beyond the sensory neurons to involve the peripheral nerve.¹ Peripheral neuritis spares sympathetic innervation to viscera, as this originates not from spinal nerves but from the paraspinal sympathetic chain.

Other mechanisms might also explain visceral dysfunction associated with shingles. Herpetic lesions have been directly observed on bladder epithelium; these lesions are thought to cause local inflammation and organ dysfunction. This commonly manifests with dysuria, urinary frequency, and laboratory evidence of cystitis. More rarely, VZV myelitis can occur, mimicking spinal cord injury with disruption of the detrusor reflex.³

In the case described here, it is likely that HZ-induced peripheral neuritis was responsible for urinary retention and constipation. There was no dysuria, no abdominal pain, no evidence of cystitis on urine dip analysis and no blood observed in the stool—all of which suggest that there were no herpetic lesions on the visceral epithelium.

To our knowledge, this is the first report of HZ-induced urinary retention treated with terazosin. A recently published review of the literature found approximately 120 case reports of HZ-associated bladder dysfunction.³ The patients in these cases frequently required several weeks of urinary catheterization before symptoms resolved. In the case described here, urinary retention likely resulted from disruption of parasympathetic motor input to the detrusor muscle, causing a flaccid bladder. It is plausible that terazosin reduced sympathetic tone at the bladder neck, reducing the detrusor pressure necessary to empty

the bladder. Given this postulated mechanism, women might also benefit from an α_1 -adrenergic antagonist. Some studies have concluded that treatment with oral steroids in addition to antiviral drugs modestly reduces acute pain.¹¹ As a result, one guideline recommends their use in moderate-severity pain or facial nerve involvement if there are no contraindications.¹² There are currently no data to support the use of oral steroids in treating HZ-associated urinary or bowel symptoms.

There have been numerous case reports associating HZ with colonic dysfunction, including cases of colonic dilation, ileus, and spasm of the colon and anus.⁶⁻¹⁰ In most cases, supportive measures were provided and bowel function returned within days to weeks. Constipation has been successfully treated with lactulose and antiviral medication,⁹ as occurred with our patient.

Conclusion

It is important to consider that the effects of HZ are not always limited to the commonly seen skin eruption. Sacral HZ, which makes up approximately 8% of all HZ presentations, is associated about half of the time with some form of urinary dysfunction and constipation. Patients presenting with sacral HZ should be warned about possible urinary (increased or decreased frequency, dysuria, suprapubic discomfort) and bowel (constipation, possible mild incontinence) symptoms. If patients experience such symptoms, they should be monitored for complete urinary obstruction or signs of bowel obstruction. Patients with incomplete urinary retention, as described here, might obtain benefit from an α_1 -adrenergic antagonist, while constipation might be improved with lactulose. If an α_1 -adrenergic agonist is considered, a careful assessment of the benefits versus the risks (especially falls in older adults secondary to hypotension) should be made before prescribing.

Drs Jakobovic and Solway are family physicians at St Joseph's Health Centre and Assistant Professors in the Department of Family and Community Medicine at the University of Toronto in Ontario. **Dr Orth** is a family physician practising in Burnaby, BC.

Competing interests

None declared

Correspondence

Dr Peter Orth, 101-4695 W Hastings St, Burnaby, BC V5C 2K6; e-mail peterorth@gmail.com

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