

Herpes Zoster of the Anogenital Region and Urinary Retention: Case Report

Anogenital Bölgede Herpes Zoster ve Üriner Retansiyon

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ABSTRACT The Varicella zoster virus causes inflammatory lesions of the sensory-root ganglions, meninges and spinal cord. Herpes zoster has been reported to affect lower urinary tract innervations in a few cases. Acute urinary retention and voiding dysfunction have been thought to occur in the presence of sacral dermatome involvement. The mechanism of urinary retention has been considered to be a motor and sensory neuropathy involving the bladder. We report two cases of herpes zoster involving the penis and the anogenital region complicated with urinary retention and voiding dysfunction. The urological symptoms were assessed by urodynamics and ultrasonic evaluation of post voiding residual urine. The clinical diagnosis of varicella zoster virus was confirmed in one of our patients with polymerase chain reaction analysis." Although zoster has been estimated to occur in sacral dermatomes in approximately 5% of cases, shingles involving the penis is not commonly seen. Our cases are important to emphasize the risk for acute urinary retention in the case of sacral dermatome involvement.

Key Words: Herpes zoster; urinary retention; genital diseases, male; genitalia, male

ÖZET Varisella zoster virüs omurilik, duyu-kök ganglionları ve meninkslerde inflamatuvar lezyonlara neden olur. Oldukça az sayıda olguda herpes zosterin alt idrar yollarına ait inervasyonları etkilediği daha önce bildirilmiştir. Bu olgularda akut idrar retansiyonu ve işeme disfonksiyonunun sakral dermatom tutulumuna bağlı olduğu düşünülmüştür. İdrar retansiyonu gelişmesine neden mesaneyi etkileyen motor ve duysal nöropati gelişimidir. Bu çalışmada, penis ve anogenital bölgenin herpes zoster enfeksiyonuna bağlı olarak gelişen idrar retansiyonu ve işeme disfonksiyonu olguları rapor edilmiştir. Ürolojik belirtiler ve rezidü idrar miktarı ürodinamik çalışma ve sonrasında ultrasonografi muayene ile saptanmıştır. Olgulardan birinin varisella zoster virüs enfeksiyonu tanısı ise polimeraz zincir reaksiyonu analizi ile doğrulanmıştır. Zoster enfeksiyonunun sakral dermatomları etkilemesi %5 oranında görülmekle birlikte penis tutulumu oldukça nadir bir durumdur. Olgularımız ayrıca sakral dermatom tutulumu görüldüğünde idrar retansiyonu gelişme riskini vurgulamak açısından da oldukça önemlidir.

Anahtar Kelimeler: Herpes zoster; idrar retansiyonu; erkek genital hastalıklar; erkek genital organlar

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Herpes zoster (HZ), also known as shingles, is a painful vesicular rash resulting from reactivation of the virus that also causes chickenpox-varicella zoster virus (VZV). The mechanism of reactivation is believed to be a result of suppressed immunologic control of the latent infection.¹ Between 10-20 percent of immunocompetent adults will get shingles during their lifetime.² The VZV causes inflammatory lesions

of the sensory-root ganglions, meninges, and, less frequently, spinal cord. The characteristic rash is a unilateral dermatomal eruption that begins with macules and papules and progresses to vesicles, pustules, and crusts. In 80-90% of cases, the rash is preceded by abnormal sensations along the affected dermatomes that include intense pain, burning, and paresthesia.^{1,3} Although any dermatome can be affected, the outbreak occurs most often in the thoracic (50-60% of cases) and facial (10-20%) regions.^{1,3,4} HZ and herpes simplex (HS) have been reported to affect lower urinary tract innervations. Acute urinary retention and voiding dysfunction have been thought to occur in the presence of sacral dermatome involvement.⁵⁻⁷ The mechanism of urinary retention has been considered to be a motor and sensory neuropathy involving the bladder.

We report two cases of HZ involving the penis and the anogenital region complicated with mild urinary retention and voiding dysfunction. The urological symptoms were assessed by urodynamics and ultrasonic evaluation of post voiding residual urine. The clinical diagnosis of VZV was confirmed in one of our patients with polymerase chain reaction (PCR) analysis.

CASE REPORTS

CASE 1

An otherwise healthy 54-year-old man was presented to the hospital complaining of a rash in the groin and difficulty to void urine. There was no previous history of urological problems and he had not experienced constitutional symptoms of fever, headache, or malaise. He did report prodromal symptoms of pain and burning sensation in the scrotal area and vesicular rash for one day. For one week prior to presentation the patient started to have increased urinary frequency, nocturia and remarkable post voiding residual urine sensation. The patient had no suspected sexual contact history. Physical examination showed unilateral grouped vesicles and pustules on an erythematous, edematous base distributed on the penile shaft, scrotum, and right bottom that continued along the posterior aspect of the right buttock at the levels of S2-4 dermatomes (Figure 1, 2). The patient underwent

urologic and neurologic examination with special attention to perineal sensation (light touch and pinprick), anal sphincter tonus, anal reflex, and bulbocavernosus reflex to assess sacral cord functions. This examination revealed that both light and pinprick perineal sensation was decreased. Anal reflex, bulbocavernosus reflex, patellar tendon reflex and Achilles tendon reflex were normal. Direct urine microscopy was normal, and a mid-stream urine specimen did not detect any significant bacterial growth. The urodynamic study was performed using a MMS instrument, Enschede, NL. Urodynamic study revealed significant residual urine (200 cc) on the uroflowmetry, a normocompliant bladder with decreased sensitivity and decreased detrusor contractility in the pressure-flow study.

CASE 2

A 62-year-old man was presented to our clinic with a rash and pain in the groin. He had no symptoms of fever, headache, or malaise. He had no history for increased urinary frequency, nocturia but had post voiding residual urine sensation for one week prior to the rash. He had recognized the rash two days ago. The patient had no suspected sexual contact history. Physical examination showed unilateral grouped vesicles and pustules on an erythematous, edematous base distributed on the penile shaft, scrotum, and right bottom that continued along the posterior aspect of the right buttock. Neurologic examination revealed that both light touch and pinprick perineal sensation was decreased. Again the decrease in the light touch and pinprick perineal sensations was detected. Anal reflex, bulbocavernosus reflex, patellar tendon reflex and Achilles tendon reflex were normal. Direct urine microscopy was normal and culture was negative. Urodynamic study revealed significant residual urine (200 cc) on the uroflowmetry, a normocompliant bladder with decreased sensitivity and decreased detrusor contractility in the pressure-flow study.

The patients were treated with oral valacyclovir (1000 mg 3 times a day) for 7 days. Marked improvement was recorded on the third and fifth day



FIGURE 1: Multiple grouped vesicles on the left buttock.



FIGURE 2: Multiple grouped vesicles on the left scrotal, pubic and inguinal region and proximal femur.

of therapy, respectively. The courses were uncomplicated, and the lesions healed without neuralgia. The urinary complaints and voiding dysfunction in our patients were reversible and recovered within 6 weeks with normal frequency of urination. The extensive unilateral distribution was highly suggestive of herpes zoster; however, because of the un-

usual presentation along the S2-S4 dermatomes and the zosteriform HS infection can be mistakenly diagnosed as VZV infection, the confirmation of the clinical diagnosis was done by PCR analysis in the first case.

DISCUSSION

We report two cases of acute urinary retention secondary to HS infection of the sacral nerve roots (S2-4). Although zoster has been estimated to occur in sacral dermatomes in approximately 5% of cases, shingles involving the penis is not commonly seen.⁴ The dermatomes from T3 to L3 are most commonly involved in HZ. The rate of occurrence of urinary retention as a complication of herpes zoster is thought to be 3.5%.^{8,9} Sacral herpes causes detrusor areflexia, and, rarely, herpes at higher levels act by an associated myelitic disorder of the long tracts. In one of our cases (no. 1), the cause of urinary retention seemed to be virus involvement of the posterior horn of sacral micturition center since there was no dysuria at the time of urinary retention and the neurologic examination revealed decreased light touch and pinprick perineal sensation. The voiding dysfunction in our patients was reversible and recovered within 4-8 weeks. Richmond reported that cord level involvement in urinary retention due to HZ was sacral in 78%, thoracolumbar in 11%, and high thoracic in 11% of patients. It was suggested that the inflammatory reaction commencing in the dorsal root ganglia spreads proximally and distally to the sacral segments of spinal cord, interrupting the detrusor reflex.¹⁰ Urinary retention in anogenital zoster may be considered to be caused by localized lumbosacral meningomyelitis with involvement of mainly sacral nerve roots, involvement of motor nerves responsible for sphincter function or migration of the virus to adjacent autonomic nerves.^{6,11} For this reason, urologic evaluation is considered if a patient, especially in the susceptible geriatric population, with suspected sacral HZ has urinary symptoms.

An appropriate diagnosis of HZ is aided by the appearance of a vesicular rash with characteristic distribution. The clinical appearance is most often

misdiagnosed as HS. When the presentation of skin lesions is not as clear, as may be the case with immunocompromised patients, laboratory confirmation is recommended.¹² Several laboratory methods can be used to identify herpes infection, including Tzanck smear, viral culture, serologic testing, immunofluorescence, and PCR. The preferred initial test is the Tzanck smear. The greatest limitation is inability to differentiate VZV from HS.¹³ Unlike other methods, PCR is effective in the detection of herpes virus in inferior samples, including those obtained during late clinical stages, such as erosions and crusts. It is useful for diagnosis with scabs and skin lesions several days old after culture is no longer positive.¹⁴ Genital HZ can be misdiagnosed as

zosteriform HS. For this reason, confirmation of clinical suspicion with PCR analysis may be warranted.

Anogenital HZ should always be considered as a possible cause of acute retention of urine and the possibility of occult herpetic infection of the cervix and rectum should be investigated. In conclusion, the prognosis for acute urinary retention secondary to HZ of anogenital region is usually benign. Initial treatment is by catheterisation, if indicated. A course of systemic antiviral treatment is required.¹⁵ Follow up urodynamic studies will confirm the return of detrusor function. We would like to emphasize this uncommon complication of HZ.

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