

Primary Varicella Zoster Infection in Child Causing Acute Urinary Retention – A Case Report

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Abstract: *Varicella zoster virus of the human herpes virus family cause childhood chickenpox. It remains dormant in sensory ganglia and re-activates years later in immunocompromised and elderly persons to produce shingles (herpes zoster) in about 10-20% cases. The association of Varicella zoster virus infection and bladder dysfunction is rare and mostly seen in adults. We present a case of a child with primary varicella zoster infection who presented with acute urinary retention. Patient was catheterised and treated with oral acyclovir. Patient was given a catheter free trial after a week and patient could void urine without any difficulty.*

Keywords: *acute urinary retention in children, Varicella zoster virus*

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I. Introduction

Childhood chickenpox is highly contagious disease caused by the Varicella zoster virus of the human herpes virus family. The disease is usually benign in immunocompetent children but can be life threatening in adults and immunocompromised children. It becomes latent in sensory ganglia and reactivates years later in immunocompromised and elderly persons to produce shingles (herpes zoster). The commonest dermatome affected are thoracic (42.4%), cranial (28.2%), lumbar (7.8%) and sacral (4.8%)^[1]. The association of Varicella Zoster virus infection and bladder dysfunction is rare and mostly seen in adults. We report the case of a child with acute urinary retention following primary varicella zoster infection.

II. Case report

An 8-year-old boy presented in the emergency department of Goa Medical College with acute urinary retention. Patient was diagnosed of chickenpox one week earlier and was treated with paracetamol and topical calamine lotion. There was no history of trauma, no history of any drug intake. Patient also had history of constipation. He was fully ambulant, well hydrated, and afebrile. Vitals of the patient were stable. The trunk and extremities had healing chickenpox skin lesions (Fig 1). Bladder was palpable upto umbilicus with suprapubic tenderness. There was no rash seen in perineal or sacral region. There was no other neurological deficit seen. Patient was catheterised with 8 Fr Foley catheter and 400ml clear urine was drained. Complete hemogram, Renal function tests & electrolytes, C-reactive protein, Urine routine & microscopy were done and found to be normal. ELISA for HIV was negative. IgG for varicella zoster virus was positive. Catheter free trial was given after 2 days but patient was unable to void and was re-catheterised. Patient was admitted and given oral Acyclovir (400mg TID for 10 days), laxatives and paracetamol. Patient was given a catheter free trial after 1 week and patient could void urine without any difficulty.



Fig 1- Skin lesions on the back

III. Discussion

The annual incidence of varicella in temperate climates is 13-16 cases per 1000 people^[2] and is highest in children aged <10 years. However, in India the incidence of varicella is higher in adults^[2]. Bladder dysfunction secondary to herpes zoster is uncommon, affecting 3.5% - 4.2% of people with Varicella Zoster virus infection, but occurs more often when the lumbosacral dermatomes are involved (28.6%)^[3]. Voiding dysfunction caused by herpes zoster may be classified into three types:-cystitis associated, neuritis associated, and myelitis associated. In neuritis associated dysfunction acontractile bladder and hypoesthesia is seen. In cystitis associated bladder dysfunction, the neurological examination is normal; whereas myelitis associated dysfunction is associated with overflow incontinence and neurological abnormalities according to the level of spinal involvement. Urinary retention is caused by spread of infection from dorsal root ganglion into the sacral motor neurons, roots or peripheral nerves causing interruption of bilateral detrusor reflex to manifest as atonic bladder. This theory was originally coined as Elsberg Syndrome^[4]. Nicholas RM, Sharpe S, et. al. reported first case of urinary retention in a child with varicella zoster virus infection^[5]. Urinary retention in herpes zoster can also occur due to aseptic meningitis^[6], but in our patient, there was no evidence of fever, nuchal rigidity, headache or weakness in the lower limbs. Urodynamic study should be considered if patient fails to improve within 6-8 weeks. In a similar case, published by David M Favara^[7], catheter was removed after three doses of acyclovir. Another case reported in the literature published by S Wessels, C F Heyns^[8] differed from our case as the child had a large primary varicella zoster vesicle on the glans penis that was obstructing the urethral meatus, which was not seen in our case. As there was no other cause identified for the urinary retention in our case, we strongly believe that the retention was caused by varicella zoster virus infection.

IV. Conclusion

Varicella zoster infection associated transient neurological effects should be suspected when no other urological pathology is identified in patients with acute retention of urine.

Acyclovir should be considered to the patients who fail catheter free trial in cases of varicella zoster infection.

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