



## Herpes Zoster Erroneously Diagnosed as Renal Colic: A Report of 3 Cases

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### Abstract

Patients with Herpes Zoster presenting in the initial disease period (before the appearance of herpetic eruption) are frequently misdiagnosed. We report on three cases of Herpes Zoster initially misdiagnosed as renal colic. We describe the clinical, laboratory and imaging findings and suggest measures that could help avoid an erroneous diagnosis.

### Introduction

Patients with Herpes Zoster presenting in the initial disease period (before the appearance of herpetic eruption) frequently receive an erroneous diagnosis such as renal colic, acute pancreatitis, and biliary colic [1,2]. We present our experience with three cases initially diagnosed as renal colic, and subsequently identified as cases of Herpes Zoster. A description of the clinical and investigational findings is followed by a discussion of the pitfalls leading to an erroneous diagnosis and suggestions to avoid them.

### Observations

#### Case 1

A 37-year-old lady presented to the emergency department of our tertiary care hospital with right loin pain of two days duration, described as dull or pricking, radiating to the spine, not related to meals, position or exertion. A provisional diagnosis of renal colic was made and the patient received analgesia and was referred to the Urology clinic. The patient had no lower urinary tract symptoms. She was under treatment for infertility but had no other medical problems. On examination, she was overweight with a lax non-tender abdomen. A urine analysis was within normal and an abdomino-pelvic ultrasound revealed mild hepatomegaly. Further imaging was requested and the patient was given a follow up appointment. Four days later, the patient presented back to the urology clinic with a rash that had appeared on the 5<sup>th</sup> day of pain (Figure 1), consisting of an elevated erythematous base with multiple tiny vesicles in the right flank (T10 dermatome). The patient was referred to the Dermatology clinic where she was started on antiviral and NSAID medications.

#### Case 2

A 52-year-old lady presented to the urology clinic with left loin pain, shooting forward to the iliac region, pain score 5/10. The patient had visited the ER of her primary health facility twice during the previous four days because of the same complaint. Pain was associated with mild urinary frequency and dysuria. The patient was receiving treatment for a number of medical conditions including diabetes mellitus, dyslipidemia, rheumatoid arthritis and multinodular goiter. She had undergone cholecystectomy 22 years earlier. Her urine analysis revealed WBCs 20-30/HPF, RBCs 3-5/HPF and proteinuria. Urine analysis was negative for nitrites and bacteria. Complete blood count revealed a total leucocytic count of 6,000/ $\mu$ L; Neutrophils 45%; C-reactive protein 1.2 mg/dL (normally 0-0.5) and Erythrocyte Sedimentation Rate first hour of 74 (normally 0-20). A provisional diagnosis of cystitis and renal pain was withheld. Urine culture and Ultrasound were requested.

On the follow up visit, her urine culture was negative; ultrasound did not reveal any urologic abnormality. Herpes Zoster was suspected based on the appearance of a rash and the patient was referred for further evaluation and treatment by infectious diseases clinic.

#### Case 3

A 51-year-old male patient presented to the urology clinic with severe right loin pain for three days, burning in nature, associated with intermediate grade fever. The patient was a known stone

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Figure 1: Herpes zoster rash.

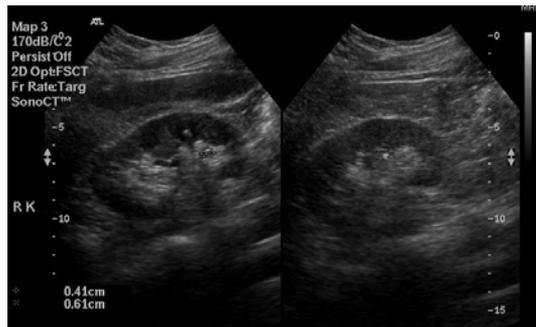


Figure 2: Suspected calyceal stones in a patient with HZ.

former/stone passer for the previous four years. His medical history is also significant for hypertension and history of knee replacement surgery. A prior Ultrasound (done 3 months before presentation) had suggested 3 mm to 5 mm bilateral stones and a repeat ultrasound suggested two small (4 mm and 6 mm) stones in the lower and mid zones of the right kidney (Figure 2). The patient was admitted to the hospital for control of pain and fever. His serum creatinine was stable at 1.3 mg/dL, serum uric acid was 5.8 mg/dL; urine analysis showed a few urate crystals and urine C & S was negative. A CT urinary tract was requested and revealed no significant renal or ureteric stones and no hydronephrosis. A rash (erythema and vesicles along the T11 abdominal dermatome) appeared on the 5<sup>th</sup> days; Dermatology and infectious disease consultations confirmed Herpes Zoster and treatment was started with Voltrex 500 mg 2 tabs tds, Neurontin 300 mg PO tds with tramal and NSAID.

## Discussion

Pain associated with Herpes Zoster may mimic other acute abdominal conditions and in the initial pre-eruption stage, may be an elusive diagnosis. There are reports of erroneous diagnoses and even surgical interventions for patients with Herpes Zoster misdiagnosed as biliary colic [1] or surgical “acute abdomen” [2].

Renal colic is a common diagnosis in patients presenting to emergency facilities with acute abdominal pain. In most cases the diagnosis is based on fairly typical clinical presentation and confirmatory investigations, yet in a number of patients the diagnosis is not straightforward and possible differential diagnoses need to be considered. In our three patients, renal pain was the provisional diagnosis provided in the Department of Emergency, based on clinical picture and suggestive findings from investigations (pyuria in one case and suspected small calyceal stones on ultrasound in another). Herpes Zoster misdiagnosed as renal colic has been previously reported. In the report by Bogomolov and Bakhur [3], of 170 patients with herpes zoster, 21 (12.3%) had been diagnosed with other diseases including renal colic. Similar findings were reported by Magdiev et al. [2]. Sommer and Poulsen [4] report on a case of herpes zoster initially misdiagnosed as renal colic based on acute loin pain and microscopic hematuria.

In retrospect, certain clues in the presentation could have alerted physicians and Urologists who were involved in the management to the possibility of Herpes Zoster (or non-urologic causes of acute abdominal pain) in our cases. The first clue is the severity of pain that was in the three cases out of proportion to the expected cause of pain. Our second patient had visited the ER twice and the urology clinic once before a provisional diagnosis of renal pain was suggested

because of pyuria (20-30 WBCs/HPF) despite negative urine C & S and normal kidneys on ultrasound. Even in the patient who is a known stone passer described severe pain inconsistent with small calyceal stones.

The second clue is the character of pain which was described as “burning”, “shooting” or “pricking”, which are not typical descriptions of renal pain. In a report by Goh and Khoo [5] describing the clinical presentation of herpes zoster in 164 patients, pain was most commonly described as burning (in 26%) or shooting (15%).

The third and most obvious clue is the appearance of the herpetic rash. In our three cases, the rash was noted by the patient in one case and by the treating urologist in the other 2 cases. This highlights the importance of a careful examination and a thorough search for signs in patients presenting with acute abdominal pain. In the report by Magdiev et al. [2], the authors comment that a main cause for diagnostic errors was inadequate examination and haste in making a decision of surgical exploration. Hassan and Donohue [1] recommend that the presence of a dermatomal vesicular rash should be considered a contraindication to surgical intervention.

A final comment based on our third case concerns patients with a known history of renal stones. In these patients, the presentation of acute abdominal pain should not routinely be ascribed to a recurrent stone episode, but alternative diagnoses should also be considered. In a study by Goldstone and Bushnell [6], the authors reviewed the charts of 231 patients with a prior diagnosis of renal stones who presented to the ER with symptoms suggestive of renal colic and who had CT scans performed. Forty two patients (18.2%) of this cohort received an alternative diagnosis. In our known stone former (case 3) a careful evaluation of the symptomatology and an early CT urinary tract could have directed the attention to the possibility of a non-urologic diagnosis.

## Conclusion

Herpes Zoster presenting in the initial disease period (before the appearance of herpetic eruption) can mimic acute renal colic, and should be considered in the evaluation of patients presenting to the ER or the urology clinic. Pain described as “burning” or “shooting”, or pain that is out of proportion to the findings on imaging studies should alert to the possibility of Herpes Zoster or other non-urologic causes of acute abdominal pain.

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