

V Edition of the Clinical Cases Contest on
non-surgical clinical management of Kidney Stones
Official template

Title: Lit control pH up as a treatment for uric acid lithiasis.

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Key words (3 to 6): uric acid lithiasis, urinary pH, bilateral lithiasis.

1. Abstract (no longer than 150 words).

This is the case of a 68-year-old man with multiple comorbidities (type 2 diabetes, epilepsy, frontotemporal dementia). He was admitted for anuria and obstructive renal failure caused by bilateral reno-ureteral stones. Initially, a right double-J stent and a left nephrostomy were placed for urinary diversion.

A month later, he was readmitted due to acute renal failure and catheter obstruction, requiring replacement and the addition of a right nephrostomy. Given the urinary pH of 5 and recurrent catheter obstruction, treatment with Canoxidin and Lit-Control pH up was initiated, raising the urinary pH to 6.

A scheduled retrograde intrarenal surgery on the right side was performed. Following medical treatment, a reduction in left-side stones was observed. Finally, retrograde intrarenal surgery on the left side was scheduled, achieving complete stone clearance. The patient remains on preventive treatment with Lit-Control pH up, with no evidence of stone recurrence.

2. Introduction

Uric acid stones represent approximately 10% of all urinary stones, with their formation associated with hyperuricosuria and low urinary pH (<5.5). Additionally, low urinary pH is linked to conditions such as metabolic syndrome and insulin resistance.

Although the prevalence of bilateral reno-ureteral stones is lower than unilateral stones, their occurrence poses a high risk of bilateral obstructive uropathy, leading to acute kidney failure, sepsis risk, and eventually chronic kidney disease.

Urinary pH analysis is a useful tool for both the diagnosis and treatment of certain types of stones.

3. Clinical Case description

a. Patient information / Medical records

We present the case of a 68-year-old male with the following medical history: former smoker, type 2 diabetes mellitus, seronegative rheumatoid arthritis, epilepsy, and frontotemporal dementia. Due to his comorbidities, the patient is dependent on assistance for basic daily activities, leading a bed-to-chair lifestyle.

b. Diagnostic support studies and results

The patient was admitted to our service in April 2024 due to anuria and obstructive renal failure caused by bilateral reno-ureteral stones (Image 1). Urgent urinary diversion was performed with the placement of a right double-J stent and a left percutaneous nephrostomy catheter.

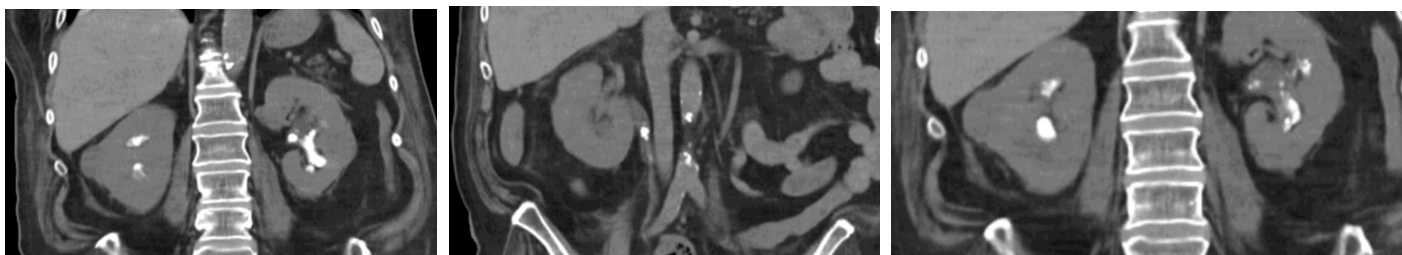


Imagen 1

The patient was discharged from de hospital and placed on the waiting list for bilateral percutaneous surgery.

One month after discharge, the patient returned to the emergency room for acute renal failure and obstruction of the right double J catheter and malfunctioning left nephrostomy. The left nephrostomy was replaced and a right nephrostomy was placed.

In the last two urine sediments, a pH of 5 was observed.

c. Treatment

Given the rapid obstruction of the catheters (1 month), the patient was discharged with Canoxidin 1-1-1 and Lit-Control pH up to 2-0-2.

On July 24, the patient underwent a scheduled right intrarenal retrograde surgery. Upon discharge, a control imaging test was requested to plan surgery on the left side.

d. Evolution and progress

In the follow-up CT scan we observed: a decrease in the number of lithiasis in the left kidney, with less prominent microlithiasis persisting than in the previous study.

The follow-up urine sediment showed a urinary pH of 6.

e. Clinical results

On August 13, the patient was scheduled for percutaneous surgery of the left kidney, but given the decrease in the lithiasis load (Image 2) during these months of treatment with Canoxidin and Lit-Control pH up, it was decided to perform left intrarenal retrograde surgery, thus leaving the patient completely free of lithiasis.

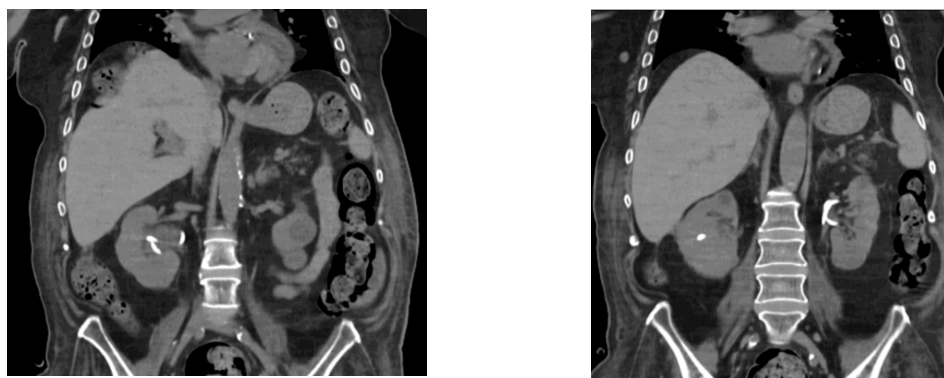


Imagen 2

The patient is currently undergoing preventive treatment with Lit-Control pH up 1-0-1 to prevent the recurrence of lithiasis; and there is no evidence of the formation of new urinary lithiasis.

4. Discussion

In our patient we are faced with a problem that, despite having a lower prevalence than unilateral lithiasis, is of great relevance given its potential risk of death due to sepsis of urinary origin and risk of chronic renal failure.

The formation of uric acid lithiasis is associated with a urinary pH <5.5, so by altering the urinary pH through medical treatment we can both prevent and facilitate the dissolution of this type of lithiasis.

The importance of medical treatment of lithiasis is especially important, especially in patients with multiple pathologies in whom hygienic-dietary measures are difficult to comply with.

5. Conclusions and recommendations

Modifying urinary pH through medical treatment to promote the dissolution of uric acid urinary lithiasis and for its subsequent prevention is very useful in dependent patients with comorbidities in whom it is difficult to comply with high water intake; and who are a population at risk of suffering serious complications secondary to bilateral obstructive uropathy.

6. Bibliographic references (* of special interest, ** of extraordinary interest)

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