2nd Edition of the Contest of Clinical Cases related to the non-surgical clinical management of kidney stones

Title: Nefrocalcinosis and Infective Lithiasis.

Keywords:

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1. Summary

77-year-old patient diagnosed with symptomatic nephrocalcinosis and infectious kidney stones with conservative management with urinary acidification to control the infectious calculi, following modification of dietary habits and pharmacological treatment of hypercalcaemia to control the risk factors for progression of nephrocalcinosis

2. Introduction

In the management of infective urinary stones, it is very important to maintain an acidic urinary pH below 6.8 to prevent progression of the disease. In the case of other pathologies that may predispose to an increase in the kidney stone mass, as in the case of the patient with nephrocalcinosis, and given that the bacteria that cause this type of calculi usually settle on previous stones of another composition, it seems essential to control both pathologies for correct patient management.

For urinary acidification we have used Lit-Control pH Down because the Acetohydroxamic Acid alternative has numerous side effects and contraindications, and since the patient suffered several episodes of pyelonephritis it was never a safe option for short/medium term use.

3. Description of the clinical case

A 77-year-old patient.

As a personal history, she has no known allergies. Hypertensive with cardiac repercussion: Hypertensive cardiomyopathy with LVEF 67%.

Osteoporosis without fragility fractures. No DM or dyslipidemia. Independent for ABVD, with bi-annual limitation due to bilateral glaucoma. Repeating UTIs and associated LONG-evolving LUTS.

In follow-up since 2018. First entry in March 2018.

Initially diagnosed with multiple bilateral calculi in the context of admission for fever and pain in FRI with a diagnosis of renal abscess, apparently non-obstructive. Suspicion of infective stones.

Positive culture to E.Coli BLEE. Satisfactorily treated with conservative management and IV antibiotic therapy. In initial CT ct, bilateral nephrocalcinosis is observed associating lithiasis in both lower calyxes of low volume, approximately 1 cm in each kidney.

After the improvement of the picture, it is cited in consultations for study and treatment.

Prior to its revision, re-entry for a similar condition, with new foci of nephritis and satisfactorily treated conservatively.

She initially consulted in August 2018 with CT scan control where the renal abscesses had decreased in size and the culture was still positive for E.Coli BLEE.

In November 2018, a new admission for right pyelonephritis, in this case obstructive due to 7.5 mm stone impacted in the distal ureter. Urinary diversion was performed

Urgent with JJ stent 4.8 ch 26 cm. A control CT scan during this admission showed that the patient had the same stone load as in previous months, with migration of the right kidney stone to the ureter (the cause of the condition that led to admission) and migration of the Left kidney stone to the middle calyx. Bilateral nephrocalcinosis. Discharged with JJ stent and scheduled URS.

Right URS performed in January 2019, with complete fragmentation, and JJ stent removed two weeks later. Stone analysis showed ammonium magnesium phosphate stone.

Review in consultations after surgery, with laboratory tests showing hypercalcaemia and urinary metabolic study showing mild hypocitraturia and urinary pH of 8 without hypercalciuria.

Referred to endocrinology consultations where parathyroid adenoma was dismissed as a cause of hypercalcemia. Treated for primary hypercalcemia with Zoledronic Acid correctly controlling its calcemia.

A control CT scan showed an increase in the bilateral kidney stones load.

4. Discussion

We suggested that due to her nephrocalcinosis and hypocitraturia, she could be a candidate for treatment with potassium citrate. However, as she was colonised by persistent E Coli Blee and diagnosed with infectious calculi, urinary alkalinisation could worsen her infectious pathology and favour new episodes of nephritis/renal abscesses.

Given the patient's circumstances, we decided to give dietary instructions to correct the hypocitraturia and indicated drinking plenty of fluids to control the progression of the nephrocalcinosis as far as possible.

On the other hand, since infective stones have caused so many complications, it was decided to acidify the urine with Lit-Control pH Down 1 pill every 8 hours to prevent the progression and growth of infective stones.

In subsequent urinary controls, the urinary pH has remained below 6.8.

After almost 2 years of treatment, the patient has not had new admissions for this reason, and the lithiasic load has been maintained. She has had no side effects with the medication, being well tolerated and asymptomatic from the Urological point of view.

5. Conclusions and recommendations

Lit-Control pH Down acidifies the urine and could monitor the progress of kidney stones disease of infective origin as in the case of this patient.

In complex patients, with multifactorial lithiasic etiologies, all predisposing factors should be controlled.