VI Edition of the Clinical Cases Contest on

non-surgical clinical management of Kidney Stones

*Official template*

**Title: Non-Surgical Management of Urolithiasis with Lit-Control in patients with Uropathy: A Case Series**

**Author/s: Dr. Michelle Angelique C. Miranda, MD, FPCP, FPSN, Dr. Jonathan Ryan T. Suarez, MD**

**Affiliation 1st author: Chong Hua Hospital, Cebu, Philippines**

**Key words (3 to 6): Lit-Control, Nephrolithiasis, Urolithiasis, Medical Expulsion Therapy, Medical Management**

1. **Abstract (no longer than 150 words).**

**Urolithiasis is a prevalent and economically burdensome condition, exacerbated by lifestyle factors. Surgical intervention, while effective, significantly increases healthcare costs, especially in resource-limited settings such as the Philippines. Medical expulsion therapy (MET) using agents like alpha-blockers and urinary alkalizers provides a non-invasive alternative for appropriately selected patients. This case series reports four patients with symptomatic urolithiasis diagnosed via imaging, managed conservatively with MET incorporating Lit-Control pH Up—a multi-component formulation. All patients achieved symptomatic relief and demonstrated radiologic reduction or complete resolution of stones, thereby avoiding surgical intervention. Careful patient selection based on stone characteristics and renal function is essential for successful outcomes. The synergistic properties of Lit-Control pH Up may enhance stone passage, reduce procedural risks, and lower treatment costs. MET offers a clinically effective and economically advantageous approach to managing urolithiasis in low-resource healthcare settings.**

2. **Clinical Case description**

    a. **Patient information / Medical records**

**Case 1:**

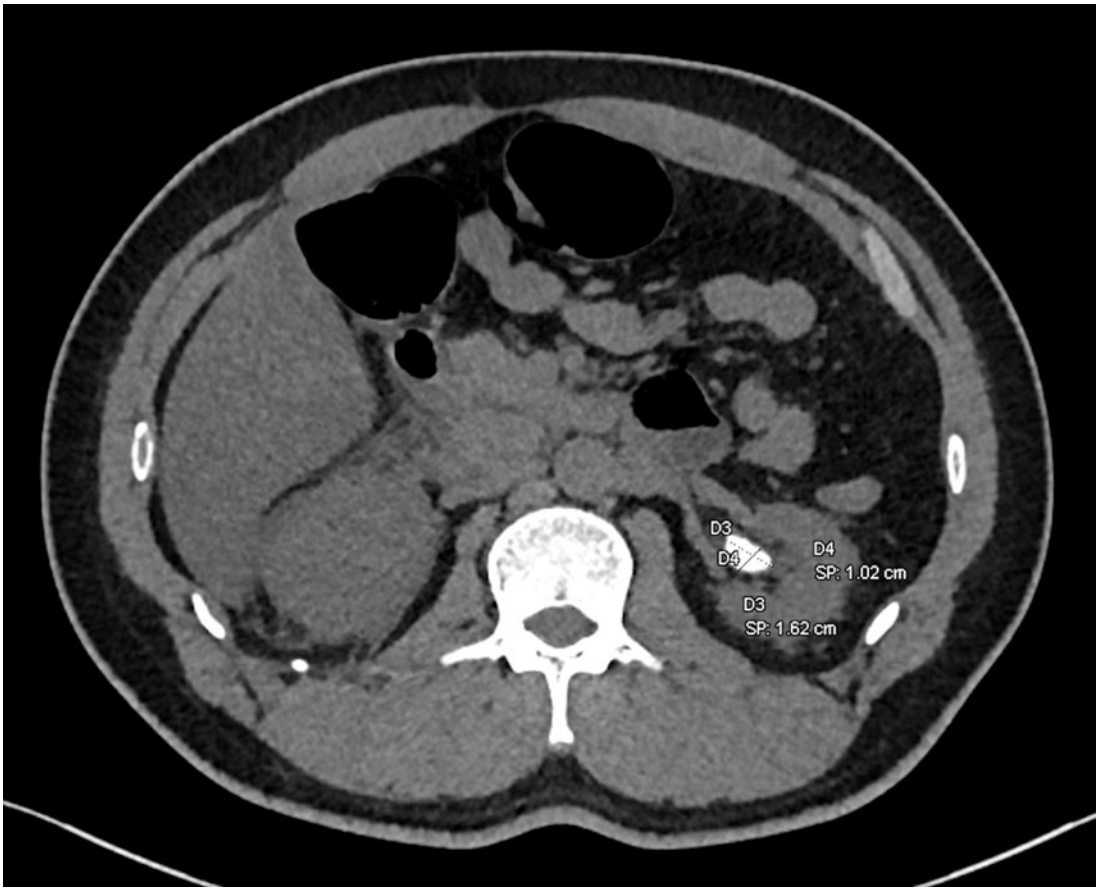
**A.A., a 43-year-old male, presented to the emergency department with sudden-onset, gnawing right flank pain radiating to the right lower quadrant, rated initially 5/10 and escalating to 8/10 within hours. The pain was aggravated by urination and accompanied by three episodes of non-bilious vomiting and urinary dribbling. He had a prior history of nephrolithiasis in April 2024, resolved by spontaneous passage.**

**The patient has dyslipidemia (noncompliant with treatment) but no history of hypertension, diabetes, asthma, allergies, or substance use. His diet is predominantly meat-based with limited fluid intake (1–2 liters daily).**

**On examination, he was alert and hemodynamically stable. Physical exam revealed a positive right costovertebral angle tenderness. Initial labs showed leukocytosis with neutrophilia, elevated BUN (19 mg/dL), creatinine (3.25 mg/dL), and uric acid (10.5 mg/dL); calcium was normal. Urinalysis revealed hematuria and pyuria without bacteriuria. Imaging (CT stonogram) identified multiple right-sided stones (0.2–0.4 cm) and a larger 1.6 × 1.0 cm stone in the left renal pelvis.**

**The patient received intravenous analgesics, antiemetics, antibiotics, and oral medical expulsion therapy including tamsulosin, nifedipine, febuxostat, colchicine, Lit-Control pH Up, and Sambong leaf extract. Surgical intervention was initially planned but deferred as symptoms resolved with conservative management. Follow-up imaging showed resolution of right-sided stones and significant reduction of the left renal stone. Renal function improved and urinalysis normalized.**

**He was discharged on continued medical therapy and advised close follow-up. At two weeks post-discharge, ultrasound confirmed complete stone clearance and normalized labs.**



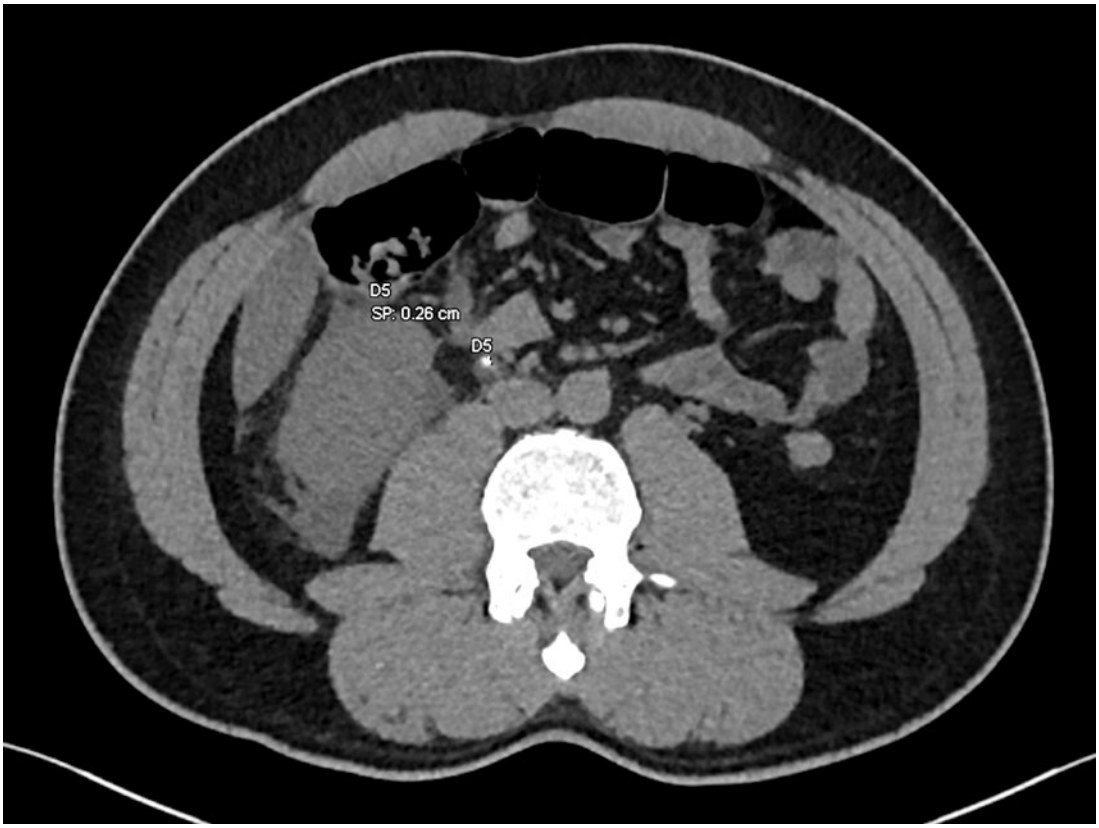



**Figure 1.A: Ureterolithiasis in the right distal ureter, B: Nephrolithiasis in the left renal pelvis**

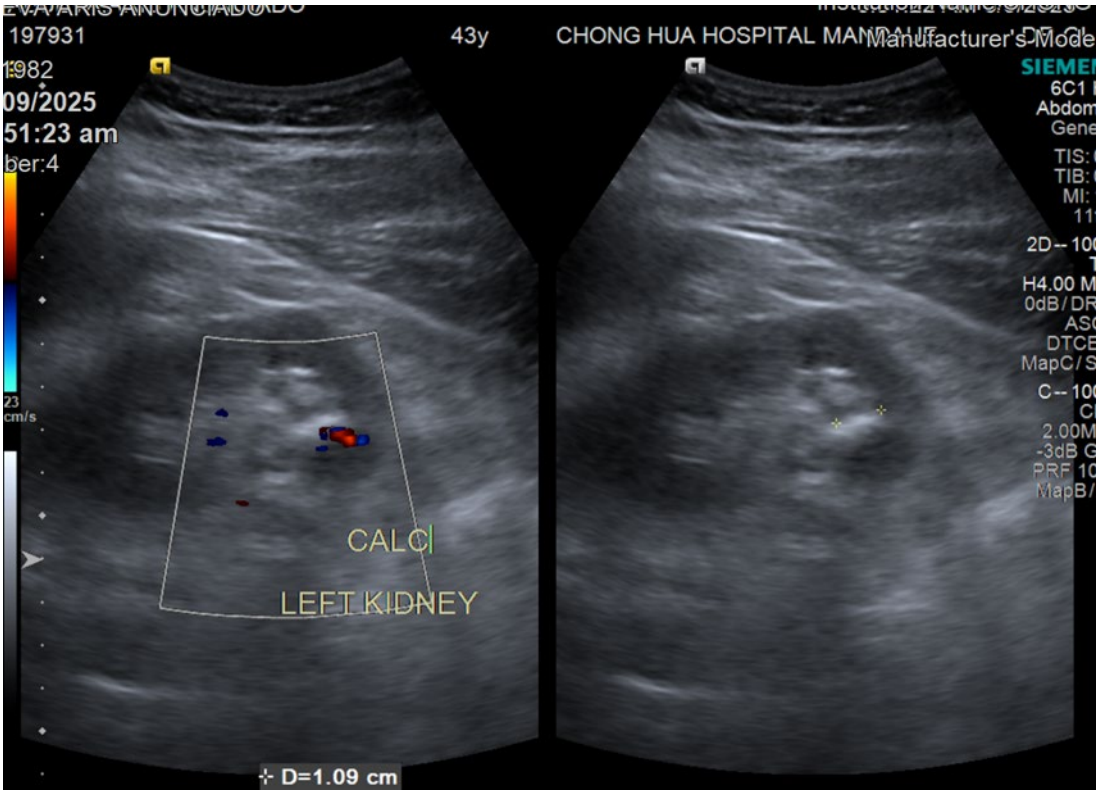



**Figure 1.C: Calculi on the left kidney**

**Case 2:**

**T.S., a 58-year-old female with a 10-year history of well-controlled hypertension, was admitted for planned surgical management of recurrent right flank pain and known right-sided nephrolithiasis. She had been previously treated with Lit-Control pH Up and Lit-Control Balance. One week prior, she developed gross hematuria, dysuria, and right flank pain. Ultrasound revealed a large right staghorn calculus with mild calyceal dilatation.**

**On admission, vital signs were stable, and physical examination was unremarkable. Laboratory work showed elevated serum uric acid (21 mg/dL) and creatinine (1.44 mg/dL). Urinalysis revealed hematuria and pyuria without bacteriuria. CT stonogram confirmed a 4.4 × 1.2 × 4.8 cm staghorn calculus (804 HU) in the right kidney and incidental cholelithiasis with choledocholithiasis.**

**She underwent ERCP with sphincterotomy and balloon extraction, laparoscopic cholecystectomy, and right nephrolithotomy without complications. Postoperatively, antihypertensives were adjusted due to transient creatinine elevation. She was discharged on Lit-Control formulations, febuxostat, and amlodipine.**

**At one-month follow-up, imaging showed residual renal calculi: 1 cm nephrolithiasis, right kidney and a 2 cm bladder stone. Despite recommendations for another stone surgery, the patient opted to continued medical management due to financial constraints. After 3 months, repeat ultrasound demonstrated complete clearance of both renal and bladder stones, indicating successful non-surgical resolution.**


**Figure 2.A: Nephrolithiasis in the right renal calyx**

**Case 3:**

**H.D., a 52-year-old male without prior comorbidities, presented with acute left upper quadrant and flank pain rated up to 10/10, accompanied by vomiting. Initial labs showed leukocytosis (WBC 12.7 ×10^9/L, neutrophils 88%), elevated serum creatinine (1.52 mg/dL), and urinalysis revealed pyuria (195 cells/µL) and hematuria (21 cells/µL) without bacteriuria. CT abdomen identified a 0.6 cm proximal left ureteral calculus (537 Hounsfield units) causing mild pelvocalyceal dilatation.**

**The patient was treated with intravenous hyoscine-N-butylbromide 20 mg every 8 hours, ceftriaxone 2 g daily, and oral medical expulsion therapy including tamsulosin 400 mcg once daily, nifedipine 30 mg once daily, hydrochlorothiazide 25 mg twice daily, and Lit-Control pH Up 1 cap once a day and Lit-control ph Balance 1 cap twice daily. Over hospitalization, symptoms improved; serial ultrasound showed stone size reduction to 0.36 cm in just 24 hours, while serum creatinine and CBC normalized. Fluid balance was maintained with average intake of 4,562 mL/day and output of 2,960 mL/day.**

**The patient was discharged on cefixime 200 mg twice daily for 7 days alongside continued medical therapy, with instructions for follow-up imaging and labs including CBC, renal function tests, and electrolytes. On follow-up, 10 days after discharge repeat imaging showed complete disappearance of the kidney stone.**

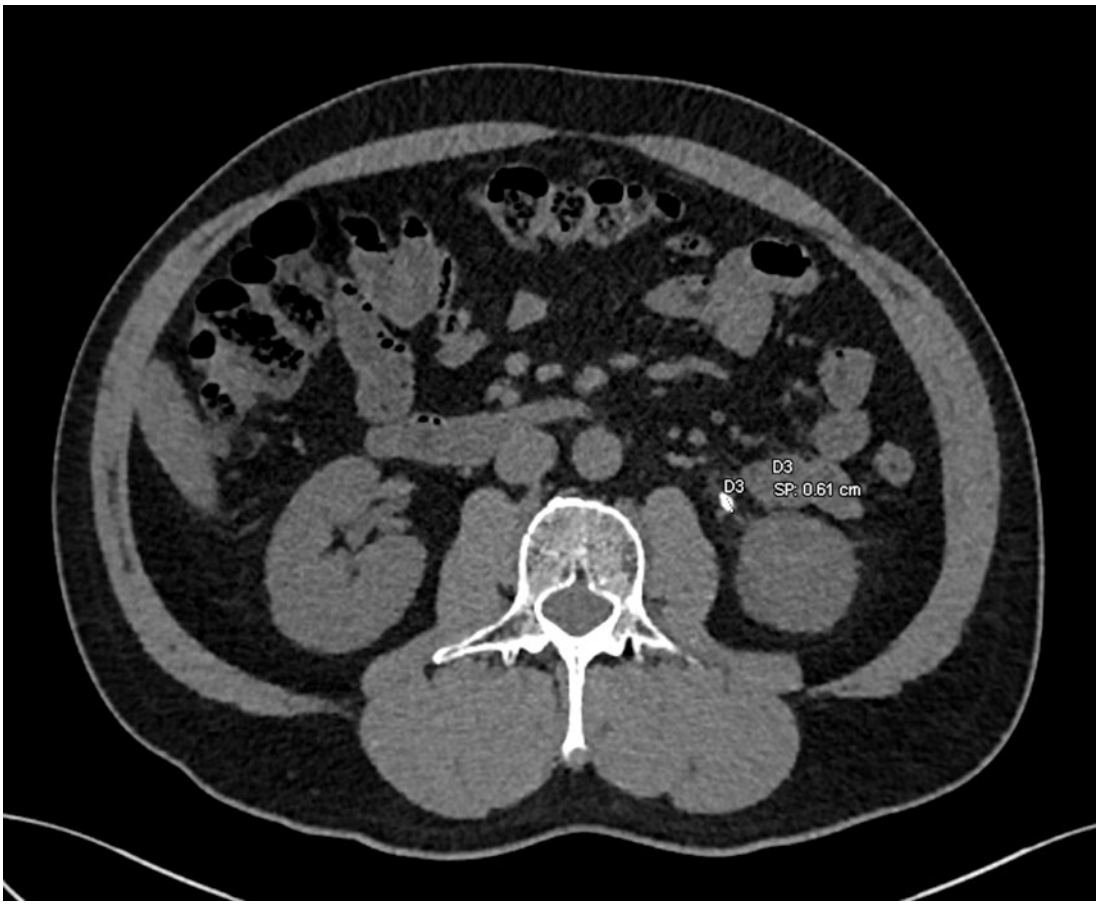



**Figure 3.A: Ureterolithiasis in the right proximal ureter**

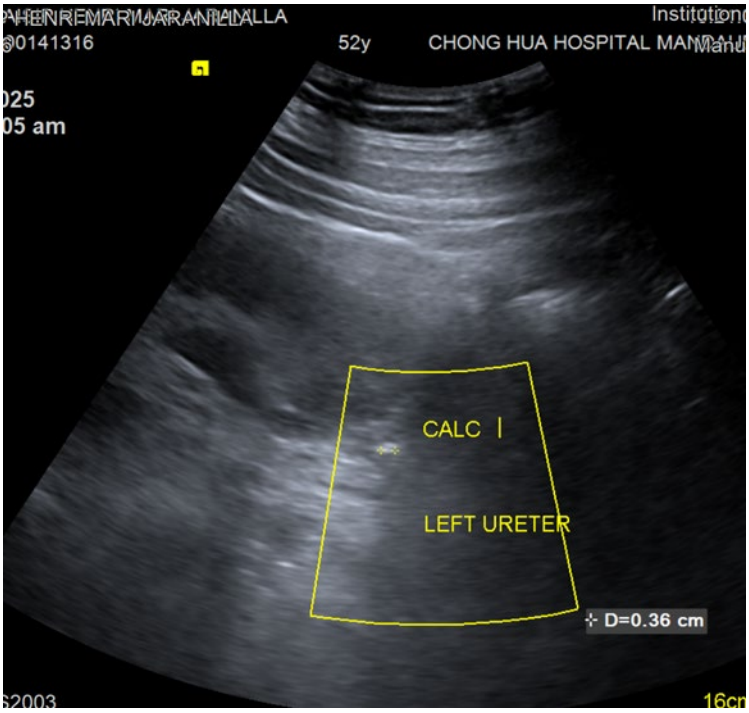
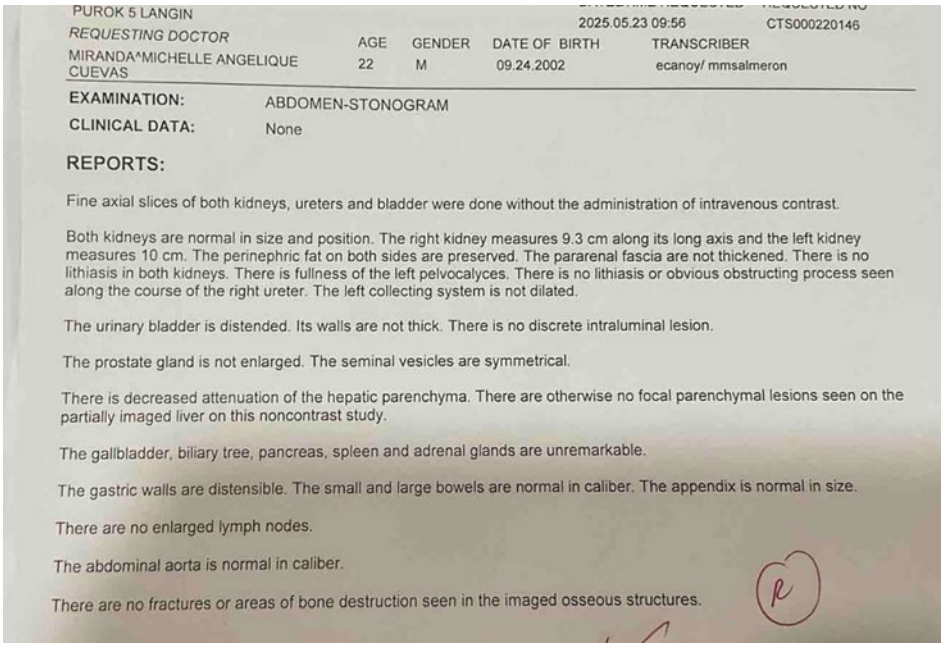



**Figure 3.B: Ureterolithiasis in the right proximal ureter**

**Case 4:**

**D.S., a 22-year old Male presented with right flank pain. Initial Workup showed a blood Uric acid level of 10.9 mg/dL, a serum Creatinine level of 1.16 (eGFR89). Ultrasound showed moderate right ureteropelvocaliectasia due to an obstructing mid-ureterolithiasis stone (1.6cm) and a 0.6 cm non-obstructing nephrolithiasis in the right mid-calyx. The patient was then given analgesics and started on Lit-control ph UP 1 capsule twice a day, Tamsulosin and was given a referral to a government (Public) hospital since he could not afford surgery in a private institution. After four (4) weeks, the patient followed up with a repeat imaging, this time a CT stonogram which showed disappearance of both the right cayceal and ureteral stones.**



PUROK 5 LANGIN

2025.05.23 09:56 CTS000220146

| REQUESTING DOCTOR | AGE | GENDER | DATE OF BIRTH | TRANSCRIBER |
|---|---|---|---|---|
| MIRANDA^MICHELLE ANGELIQUE CUEVAS | 22 | M | 09.24.2002 | ecanoy/ mmsalmeron |

**EXAMINATION:** ABDOMEN-STONOGRAM

**CLINICAL DATA:** None

**REPORTS:**

Fine axial slices of both kidneys, ureters and bladder were done without the administration of intravenous contrast.

Both kidneys are normal in size and position. The right kidney measures 9.3 cm along its long axis and the left kidney measures 10 cm. The perinephric fat on both sides are preserved. The pararenal fascia are not thickened. There is no lithiasis in both kidneys. There is fullness of the left pelvocalyces. There is no lithiasis or obvious obstructing process seen along the course of the right ureter. The left collecting system is not dilated.

The urinary bladder is distended. Its walls are not thick. There is no discrete intraluminal lesion.

The prostate gland is not enlarged. The seminal vesicles are symmetrical.

There is decreased attenuation of the hepatic parenchyma. There are otherwise no focal parenchymal lesions seen on the partially imaged liver on this noncontrast study.

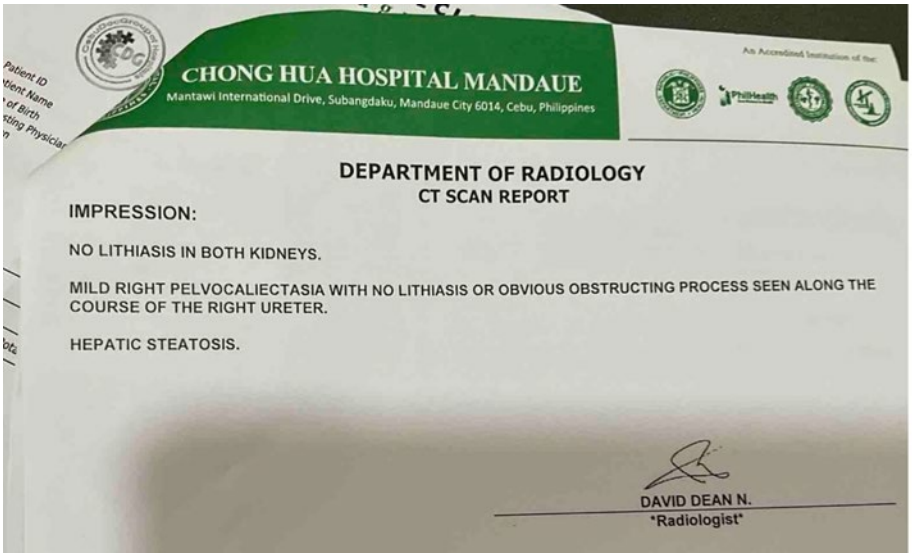
The gallbladder, biliary tree, pancreas, spleen and adrenal glands are unremarkable.

The gastric walls are distensible. The small and large bowels are normal in caliber. The appendix is normal in size.

There are no enlarged lymph nodes.

The abdominal aorta is normal in caliber.

There are no fractures or areas of bone destruction seen in the imaged osseous structures.



CHONG HUA HOSPITAL MANDAUE
Mantawi International Drive, Subangdaku, Mandaue City 6014, Cebu, Philippines

DEPARTMENT OF RADIOLOGY
CT SCAN REPORT

IMPRESSION:

NO LITHIASIS IN BOTH KIDNEYS.

MILD RIGHT PELVOCALIECTASIA WITH NO LITHIASIS OR OBVIOUS OBSTRUCTING PROCESS SEEN ALONG THE COURSE OF THE RIGHT URETER.

HEPATIC STEATOSIS.

DAVID DEAN N.
"Radiologist"

**Conclusions and recommendations**

**Urolithiasis remains a prevalent global health challenge, with increasing incidence and recurrence linked to lifestyle factors and comorbidities despite improvement in surgical techniques. In resource-constrained settings such as the Philippines, where surgical interventions are often limited by cost and accessibility, effective, non-invasive, and affordable treatment modalities are critical. Medical expulsion therapy (MET), tailored to stone characteristics and patient factors, serves as a viable first-line option for uncomplicated cases. Adjunctive use of formulations like Lit-Control medications may enhance stone dissolution, reduce recurrence, and expedite recovery.**

**The cases presented demonstrate that comprehensive conservative management, combining MET with Lit-control, alpha-blockers, calcium channel blockers, hydration and lifestyle modification, can achieve symptomatic relief, radiologic clearance, and surgical avoidance. These findings emphasize the value of individualized, evidence-based strategies and the potential of synergistic pharmacologic agents to optimize nephrolithiasis management, particularly in economically constrained healthcare environments.**

**RECOMMENDATIONS**

1. **Investigate the long-term prognosis of patients on lit control.**
2. **Investigate the effectiveness and safety when used in breastfeeding patients with stone disease.**
3. **Have more local data regarding lit-control safety and effectiveness**

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

1. HARRISON'S Principles of Internal Medicine - 21st Ed., Chapter 138, page 2368-2373

2. Alkhatatbeh H, Ayyad M, Alharahsheh S. Title: The Role of Urine Alkalinization Using Lit Control Ph-Up in the Treatment of Uric Acid Kidney Stones post failed endoscopic procedure. A clinical Case Report.

3. Belén Alonso M. 2nd Edition of the Contest of Clinical Cases related to the non-surgical clinical management of kidney stones.

4. Galan-Llopis JA, Torrecilla-Ortiz C, Luque-Gálvez MP, Group PL, Peris-Nieto X, Cuñé-Castellana J. Urinary pH as a Target in the Management of Lithiasic Patients in Real-World Practice: Monitoring and Nutraceutical Intervention for a Nonlithogenic pH Range. Clin Med Insights Urol. 2019 Jan;12:117956111985355.

5. Conte A, Pizá P, García-Raja' A, Grases' F, Costa-Bauzá2 A, Prieto RM. Urinary lithogen risk test: usefulness in the evaluation of renallithiasis treatment using crystallization inhibitors (citrate and phytate).

6. Reddy SVK, Shaik AB, Bokkisam S. Effect of Potassium Magnesium Citrate and Vitamin B-6 Prophylaxis for Recurrent and Multiple Calcium Oxalate and Phosphate Urolithiasis. Korean Journal of Urology © The Korean Urological Association [Internet]. 2014;55:411–6. Available from: http://crossmark.crossref.org/dialog/?doi=10.4111/kju.2014.55.6.411&domain=pdf&date_stamp=2014-06-16www.kjurology.orghttp://dx.doi.org/10.4111/kju.2014.55.6.411

7. Grases F, Rodriguez A, Costa-Bauza A. Efficacy of mixtures of magnesium, citrate and phytate as calcium oxalate crystallization inhibitors in urine. Journal of Urology. 2015 Sep 1;194(3):812–9.

8. Kamphuis GM, Van Hattum JW, De Bie P, Somani BK. Method of alkalization and monitoring of urinary pH for prevention of recurrent uric acid urolithiasis: A systematic review. Vol. 8, Translational Andrology and Urology. AME Publishing Company; 2019. p. S448–56.

9. Neha, Mazumder A, Das S, Chandel S. Role of Flavonoids in the Treatment of Urolithiasis: A Challenging Herbal Approach. Vol. 23, Journal of Natural Remedies. Informatics Publishing Limited and Society for Biocontrol Advancement; 2023. p. 1237–54.

10. Costa-Bauzá A, Perelló J, Isern B, Grases F. An experimental study on residual lithiasis after shock wave lithotripsy. Urol Res. 2005 Feb;33(1):51–6.

11. Hernandez Y, Costa-Bauza A, Calvó P, Benejam J, Sanchis P, Grases F. Comparison of two dietary supplements for treatment of uric acid renal lithiasis: Citrate vs. citrate + theobromine. Nutrients. 2020 Jul 1;12(7):1–8.

12. Picozzi SCM, Marenghi C, Casellato S, Ricci C, Gaeta M, Carmignani L. Management of ureteral calculi and medical expulsive therapy in emergency departments. J Emerg Trauma Shock. 2011 Jan;4(1):70–6.

13. Wood KD, Gorbachinsky I, Gutierrez J. Medical expulsive therapy. In: Indian Journal of Urology. Medknow Publications; 2014. p. 60–4.

14. Lipkin ME, Preminger GM. Demystifying the Medical Management of Nephrolithiasis. Rev Urol. 2011;13(1):34–8.

**15. Copyright Q ; By A, Urological Association I. POTASSIUM-MAGNESIUM CITRATE IS AN EFFECTIVE PROPHYLAXIS AGAINST RECURRENT CALCIUM OXALATE NEPHROLITHIASIS. Vol. 158, JOURNAL OF UROLOGY. 1997.**

**16. Rodriguez A, Costa-Bauza A, Saez-Torres C, Rodrigo D, Grases F. HPLC method for urinary theobromine determination: Effect of consumption of cocoa products on theobromine urinary excretion in children. Clin Biochem. 2015 Apr 1;48(16–17):1138–43.**

**17. Massey L, Massey L. Magnesium therapy for nephrolithiasis.**

**18. Emiliani E, Jara A, Kanashiro AK. Phytotherapy and Herbal Medicines for Kidney Stones. Curr Drug Targets. 2020 Sep 29;22(1):22–30.**

**19. Grases F, Rodriguez A, Costa-Bauza A. Theobromine inhibits uric acid crystallization. A potential application in the treatment of uric acid nephrolithiasis. PLoS One. 2014 Oct 21;9(10).**

**20. Chattaraj KG, Paul S. Inclusion of Theobromine Modifies Uric Acid Aggregation with Possible Changes in Melamine-Uric Acid Clusters Responsible for Kidney Stones. Journal of Physical Chemistry B. 2019 Dec 12;123(49):10483–504.**

**21. Grases F, Garcia-Gonzalez R, Genestar C, Torres JJ, March JG. Vitamin A and urolithiasis. Vol. 269, Clinica Chimica Acta. 1998.**

**22. McCarthy CJ, Baliyan V, Kordbacheh H, Sajjad Z, Sahani D, Kambadakone A. Radiology of renal stone disease. Vol. 36, International Journal of Surgery. Elsevier Ltd; 2016. p. 638–46.**

**23. Fontenelle LFMMP, Sarti TDMMP. Kidney Stones- Treatment and Prevention. American Academy of Family Physicians. 2019;**

**24. Pearle MS, Goldfarb DS, Assimos DG, Curhan G, Denu-Ciocca CJ, Matlaga BR, et al. Medical management of kidney stones: AUA guideline. Journal of Urology. 2014;192(2):316–24.**