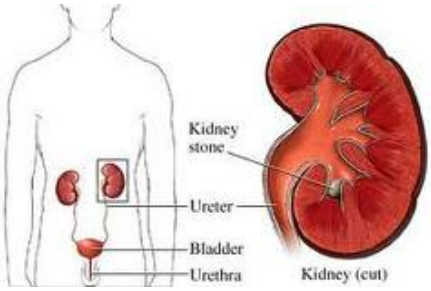

Los cálculos renales se presentan cuando la orina se vuelve demasiado concentrada y las substancias en ella se cristalizan y forman piedritas (los cálculos). Los síntomas se manifiestan cuando los cálculos se trasladan por el uréter y causan un dolor intenso. Los cálculos renales pueden formarse en la pelvis, en los cálices del riñón o en el uréter.

Registro: 1

Título: Hallazgos tomográficos en pacientes con sospecha clínica de urolitiasis. Evaluación de la certeza clínica y las afecciones asociadas más frecuentes.

Fuente: Noriega Negrete I, Guerrero Avendaño G. Hallazgos tomográficos en pacientes con sospecha clínica de urolitiasis. Evaluación de la certeza clínica y las afecciones asociadas más frecuentes. Anales De Radiologia, Mexico [Internet]. 2013, Jan [citado 16, 2015]; 12(1): 2-6. Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=lth&AN=90062294&lang=es&site=ehost-live

Resumen (inglés):

Introduction. The considerable frequency with which urotomographies are requested at the Hospital General de Mexico Image Service has spurred our interest in identifying clinical certainty and different types of differential diagnosis in the population at our center. Material and methods. We conducted a retrospective analysis of computed tomography studies of abdomen and pelvis in single phase, requested as the result of a clinical diagnosis of urolithiasis in first-time patients received at the imaging service referred from any of the hospital wards, in a period of 6 months (408 studies). Results. Nephrolithiasis was confirmed in 22.5% of cases. Studies without evidence of pathology accounted for 14.7%. The pathologies encountered most commonly

included discal disease (9.8%) and diverticular disease (8.8%). Discussion and conclusions: Physical examination and adequate anamnesis may help the clinic reduce the frequency of unnecessary studies on patients, lowering the cost and time of medical care, as well as unnecessary exposure to ionizing radiation. It is important to know the most common type of pathologies in the population that receives care at this hospital. This study seeks to provide tools to broaden the range of differential diagnoses and emphasize the search for better quality care.

Resumen (español):

Introducción. Debido a la gran frecuencia con la que se solicitan urotomografías en el Servicio de Imagen en el Hospital General de México se despertó nuestro interés por identificar la certeza clínica y los diferentes tipos de diagnostico diferencial entre la población de nuestro centro. Material y métodos. Se realizó un análisis retrospectivo de los estudios de tomografía computada de abdomen y pelvis en fase simple, solicitados a causa de un diagnóstico clínico de urolitiasis, en pacientes de primera vez recibidos en el servicio de imagenología y provenientes de cualquiera de los pabellones de este nosocomio, en un período de 6 meses (408 estudios). Resultados. Se confirmó nefrolitiasis en 22.5% de los casos. Los estudios sin evidencia de patología alcanzan 14.7%. Entre las patologías más frecuentemente encontradas se identificaron enfermedad discal (9.8%) y enfermedad diverticular (8.8%). Discusión y conclusiones: La exploración física y una anamnesis adecuada pueden permitir al clínico disminuir la frecuencia de estudios innecesarios a pacientes disminuyendo el costo y tiempo de atención médica, así como la exposición innecesaria a radiación ionizante. Es importante conocer el tipo de patologías más frecuentes entre la población que recibe atención en este centro hospitalario. Este estudio pretende otorgar herramientas para aumentar la gama de diagnósticos diferenciales y enfatizar la búsqueda de una mejor calidad en la atención. Artificio de titileo por Doppler color en el diagnóstico de la nefrolitiasis.

Registro: 2

Título: La dieta en el tratamiento de la litiasis renal bases fisiopatológicas.

Fuente: Negri A, Spivacow f, Del Valle E. La dieta en el tratamiento de la litiasis renal bases fisiopatológicas. Medicina [Internet]. 2013, [citado 16, 2015]; 73(3): 267-271. Disponible en http://search.ebscohost.com/login.aspx?direct=true&db=lth&AN=88460063&lang=es&site=ehost-live

Resumen (inglés):

Diet in the treatment of renal lithiasis. Pathophysiological basis. The composition of urine is influenced by diet and changes in dietary factors have been proposed to modify the risk of recurrent nephrolithiasis. Nutrients that have been implicated include calcium, oxalate, sodium, animal protein, magnesium and potassium. There is significant evidence showing that a high calcium diet is associated with a reduction of lithogenic risk. One of the possible mechanisms to explain this apparent paradox is that the higher intake of calcium in the intestine binds with dietary oxalate, reducing its absorption and urinary excretion. Oxalate from the diet seems to provide only a small contribution to excretion and dietary restriction is appropriate only in those with hyperoxaluria and hyperabsorption. Observational studies have shown a positive and independent association between sodium intake and the formation of new kidney stones. Consumption of animal protein creates an acid load that increases urinary excretion of calcium and uric acid and reduced citrate, all factors that could participate in the genesis of stones. Potassium-rich foods increase urinary citrate because of its alkali content. In prospective observational studies, diets rich in magnesium were associated with a lower risk of kidney stone formation in men. In conclusion, diet is a key element in the management of the patient with kidney stones but always subordinated to present metabolic risk factors.

Resumen (español):

La composición de la orina está influenciada por la dieta y la variación de factores dietarios han sido propuestos para modificar el riesgo de nefrolitiasis recurrente. Los nutrientes que han sido implicados incluyen el calcio, el oxalato, el sodio, las proteínas de origen animal, el magnesio y el potasio. Hay evidencias significativas que demuestran que una dieta alta en calcio se asocia

con una reducción del riesgo litogénico. Uno de los posibles mecanismos para explicar esta aparente paradoja, es que la mayor ingesta de calcio se une en el intestino al oxalato dietario, reduciendo la absorción del mismo y su excreción urinaria. El oxalato de la dieta parece aportar solo una pequeña contribución a su excreción y es conveniente una restricción dietética sólo en aquellos con hiperoxaluria e hiperabsorción. Los estudios observacionales han mostrado una asociación positiva e independiente entre el consumo de sodio y la formación de nuevos cálculos renales. El consumo de proteínas de origen animal genera una carga ácida que aumenta la excreción urinaria de calcio y ácido úrico y reduce la de citrato, todos factores que podrían participar en la génesis de la litiasis. Alimentos ricos en potasio aumentan el citrato urinario debido a su contenido de álcalis. En estudios observacionales prospectivos, las dietas ricas en magnesio se asociaron con un menor riesgo de formación de cálculos renales en hombres. En conclusión, la dieta es un elemento central en el control del paciente con cálculos renales, pero siempre subordinada a los factores de riesgo metabólico hallados.

Registro 3

Titulo: Artificio de titileo por Doppler color en el diagnóstico de la nefrolitiasis.

Fuente: Rivera R, Floccari F, Logias F, Di Lullo L. Artificio de titileo por Doppler color en el diagnóstico de la nefrolitiasis. Medicina [Internet]. 2014, [citado 16, 2015]; 74(4): 301.Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=lth&AN=99578482&lang=es&site=ehost-live

Registro: 4

Título: Astaxanthin modulates osteopontin and transforming growth factor β1 expression levels in a rat model of nephrolithiasis: a comparison with citrate administration.

Fuente: Alex M, Sauganth Paul M, Abhilash M, Mathews V, Anilkumar T, Nair R. Astaxanthin modulates osteopontin and transforming growth factor β1 expression levels in a rat model of nephrolithiasis: a comparison with citrate administration. BJU International [Internet]. 2014, [citado 19, 2015]; 114(3): 458-466. Disponible en:

http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=24712822&lang=es&site=ehost-live

Resumen:

Objectives: To evaluate the effect of astaxanthin on renal angiotensin-I converting enzyme (ACE) levels, osteopontin (OPN) and transforming growth factor β1 (TGF-β1) expressions and the extent of crystal deposition in experimentally induced calcium oxalate kidney stone disease in a male Wistar rat model. To compare the efficacy of astaxanthin treatment with a currently used treatment strategy (citrate administration) for kidney stones. **Materials and Methods:** The expression of OPN was assessed by immunohistochemistry. One step reverse transcriptase polymerase chain reaction followed by densitometry was used to assess renal OPN and TGF-β1 levels. Renal ACE levels were quantified by an enzyme-linked immunosorbent assay method. Crystal deposition in kidney was analysed by scanning electron microscopic (SEM)-energy-dispersive X-ray (EDX).

Results: The renal ACE levels and the expression of OPN and TGF-β1 were upregulated in the nephrolithiasis-induced rats. Astaxanthin treatment reduced renal ACE levels and the expression OPN and TGF-β1. SEM-EDX analysis showed that crystal deposition was reduced in the astaxanthin-treated nephrolithiatic group. Astaxanthin treatment was more effective than citrate administration in the regulation of renal ACE levels, OPN and TGF-β1 expressions.

Conclusions: Astaxanthin administration reduced renal calcium oxalate crystal deposition possibly by modulating the renal renin-angiotensin system (RAS), which reduced the expression of OPN and TGF-β1 levels. Astaxanthin administration was more effective than citrate treatment in reducing crystal deposition and down-regulating the expression of OPN and TGF-β1.

Registro: 5

Título: The changing profile of patients with calcium nephrolithiasis and the ascendancy of overweight and obesity: a comparison of two patient series observed 25 years apart.

Fuente: Rendina D, De Filippo G, De Pascale F, Zampa G, Muscariello R, Strazzullo P, et al.] The changing profile of patients with calcium nephrolithiasis and the ascendancy of overweight and obesity: a comparison of two patient series observed 25 years apart. Nephrology, Dialysis, Transplantation: Official Publication Of The European Dialysis And Transplant Association - European Renal Association [Internet]. 2, [citado 19, 2015]; 28 Suppl 4iv146-iv151. Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=23595293&lang=es&site=ehost-live

Resumen:

Background: Epidemiological data indicate an increasing incidence and prevalence of nephrolithiasis (NL) worldwide in the last few decades. **Methods:** The aim of this study was to compare the clinical and biochemical profiles of recurrent stone formers referred to a Kidney Stone Centre from March 1983 to June 1986 with the one featured by patients seen 25 years later in the same geographical area, Campania, southern Italy. **Results:** Idiopathic calcium stone formers made up the large majority of the patient population in both series. Those examined in 2008-11 showed higher age at the onset of NL, higher prevalence of overweight/obesity and higher urinary excretion of oxalate and phosphate compared with those seen in 1983-86. The differences in the urinary biochemical variables remained significant upon accounting for age, gender, creatinine clearance and body mass index (BMI), and were not observed in patients with primary hyperparathyroidism enrolled in the same periods. A greater prevalence of uric acid stone formers was also observed in the 2008-11 population. **Conclusions:** The massive epidemics of overweight/obesity and the substantial modifications of dietary habits over the last few decades in most Western countries may be the factors underlying the changing clinical and biochemical profiles of patients with recurrent NL.

Registro: 6

Título: Risk of chronic and end stage kidney disease in patients with nephrolithiasis.

Fuente: Shoag J, Halpern J, Goldfarb D, Eisner B. Risk of chronic and end stage kidney disease in patients with nephrolithiasis. The Journal Of Urology [Internet]. 2014, [citado 19, 2015]; 192(5): 1440-1445.

Resumen:

Purpose: We examine kidney stone disease as a potential risk factor for chronic kidney disease, end stage kidney disease and treatment with dialysis.

Materials and Methods: The NHANES (National Health and Nutrition Examination Survey) 2007-2010 database was interrogated for patients with a history of kidney stones. Demographics and comorbid conditions including age, gender, body mass index, diabetes, hemoglobin A1c, hypertension, gout and smoking were also assessed. Multivariate analysis adjusting for patient demographics and comorbidities was performed to assess differences in the prevalence of chronic kidney disease and treatment with dialysis between the 2 groups. History of nephrolithiasis was assessed with the question, "Have you ever had kidney stones?" Chronic kidney disease was defined as an estimated glomerular filtration rate of less than 60 ml/minute/1.73 m(2) and/or a urinary albumin-to-creatinine ratio greater than 30 mg/gm. Statistical calculations were performed using Stata® software with determinations of p values and 95% CI where appropriate.

Results: The study included an analysis of 5,971 NHANES participants for whom data on chronic kidney disease and kidney stones were available, of whom 521 reported a history of kidney stones. On multivariate analysis a history of kidney stones was associated with chronic kidney disease and treatment with dialysis (OR 1.50, 1.10-2.04, p = 0.013 and OR 2.37, 1.13-4.96, p = 0.025, respectively). This difference appeared to be driven by women, where a history of kidney stones was associated with a higher prevalence of chronic kidney disease (OR 1.76, 1.13-2.763, p = 0.016) and treatment with dialysis (OR 3.26, 1.48-7.16, p = 0.004). There was not a significant association between kidney stone history and chronic kidney disease or treatment with dialysis in men.

Conclusions: Kidney stone history is associated with an increased risk of chronic kidney disease and treatment with dialysis among women even after adjusting for comorbid conditions. Large scale prospective studies are needed

to further characterize the relationship between nephrolithiasis and chronic kidney disease.

Registro: 7

Título: Recurrent nephrolithiasis associated with atazanavir use.

Fuente: Wang L, Osterberg E, David S, Rosoff J. Recurrent nephrolithiasis associated with atazanavir use. BMJ Case Reports [Internet]. 2014, [citado19, 2015]; 2014. Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=23578275&lang=es&site=ehost-live

Resumen:

A 64-year-old man with HIV on antiretroviral therapy (including atazanavir, a protease inhibitor) presented with left flank pain, nausea and vomiting. A kidney stone was suspected, and a CT scan demonstrated left hydronephrosis but failed to demonstrate nephrolithiasis or extrinsic compression. The patient had a ureteral stent placed which relieved his symptoms. A few months later, he underwent left ureteroscopy and a large ureteral calculus was found. The stone was removed and analysis showed 43% atazanavir and 57% calcium oxalate. Several months later, the patient developed flank pain on the opposite side. A renal ultrasound suggested right-sided nephrolithiasis and he subsequently underwent ureteroscopy with laser lithotripsy of two stones. Stone analysis showed that they were composed of 100% atazanavir. This case highlights the fact that patients treated with protease inhibitors remain at risk for developing nephrolithiasis. Ultrasonography can be a useful diagnostic tool in the setting of these radiolucent calculi.

Registro: 8

Título: Imaging diagnosis-ultrasonographic and CT findings in a gray seal (Halichoerus grypus) with hepatic cirrhosis, pyelonephritis, and nephrolithiasis.

Fuente: de Swarte M, Bryan J, Zarelli M, Huuskonen V, Schneeweiss W, McAllister H. Imaging diagnosis-ultrasonographic and CT findings in a gray seal (Halichoerus grypus) with hepatic cirrhosis, pyelonephritis, and nephrolithiasis. Veterinary Radiology & Ultrasound: The Official Journal of the American

College of Veterinary Radiology and the International Veterinary Radiology Association [Internet]. 2013, [citado 19, 2015]; 54(5): 555-559. Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=24403382&lang=es&site=ehost-live

Resumen:

An immature gray seal was presented with lethargy, weight loss, vomiting and hematuria. Hepatic disease and urinary tract infection were suspected. Abdominal ultrasound showed hyperechoic structures with marked acoustic shadowing spread throughout both kidneys, but incomplete visualization of the liver. Abdominal CT showed mineral densities scattered throughout both kidneys and poor delineation of the liver. Due to the poor quality of life, the seal was euthanized. Postmortem examination showed ammonium urate nephroliths, pyelonephritis, and hepatic cirrhosis. This case report emphasizes the difficulty of characterizing liver disease with conventional 2D-ultrasound and CT in a deep-chested animal with minimal intra-abdominal fat.

Registro: 9

Título: Dietary and pharmacologic management to prevent recurrent nephrolithiasis in adults: a clinical practice guideline from the American College of Physicians.

Fuente: Qaseem A, Dallas P, Forciea M, Starkey M, Denberg T. Dietary and pharmacologic management to prevent recurrent nephrolithiasis in adults: a clinical practice guideline from the American College of Physicians. Annals of Internal Medicine [Internet]. (2014, Nov 4), [citado19, 2015]; 161(9): 659-667. Disponible en http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=25364887&lang=es&site=ehost-live

Resumen:

Description: The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on the comparative effectiveness and safety of preventive dietary and pharmacologic management of recurrent nephrolithiasis in adults.

Methods: This guideline is based on published literature on this topic that was identified using MEDLINE, the Cochrane Database of Systematic Reviews (through March 2014), Google Scholar, ClinicalTrials.gov, and Web of Science. Searches were limited to English-language publications. The clinical outcomes evaluated for this guideline include symptomatic stone recurrence, pain, urinary tract obstruction with acute renal impairment, infection, procedure-related illness, emergency department visits, hospitalizations, quality of life, and end-stage renal disease. This guideline grades the quality of evidence and strength of recommendations using ACP's clinical practice guidelines grading system. The target audience for this guideline is all clinicians, and the target patient population is all adults with recurrent nephrolithiasis (≥1 prior kidney stone episode).

Recommendation1: ACP recommends management with increased fluid intake spread throughout the day to achieve at least 2 L of urine per day to prevent recurrent nephrolithiasis. (Grade: weak recommendation, low-quality evidence).

Recommendation2: ACP recommends pharmacologic monotherapy with a thiazide diuretic, citrate, or allopurinol to prevent recurrent nephrolithiasis in patients with active disease in which increased fluid intake fails to reduce the formation of stones. (Grade: weak recommendation, moderate-quality evidence).

Registro: 10

Título: Recurrent nephrolithiasis - what next?

Fuente: Kim M, Mayr M. Recurrent nephrolithiasis - what next. Praxis [Internet]. 2013, Sep 18 [citado 19, 2015]; 102(19): 1177-1188.Disponible en**:** http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=24025175&lang=es&site=ehost-live

Resumen:

Nephrolithiasis is a common disease with a high recurrence rate. It is associated with a significant morbidity for an individual patient, but also an immense socioeconomic burden. A better understanding and recognition of underlying risk factors and prevention strategies are therefore of great

importance. The evaluation for metaphylaxsis consists of a thorough patient history, metabolic examination of blood and urine, imaging of the kidney and urinary tract, and whenever possible a stone analysis. On the basis of the results, preventative measures can be performed. Therapeutic goals in stone prevention are to reduce the urine saturation of stone forming salts, to increase the urine concentration of stone formation inhibitors, and if necessary, the modification of urine pH. A dietary modification is the cornerstone of a successful metaphylaxis.

Registro: 11

Título: Chronic low level trimethyltin exposure and the risk of developing nephrolithiasis.

Fuente: Tang X, Li N, Kang L, Dubois A, Gong Z, Ren X, et al. Chronic low level trimethyltin exposure and the risk of developing nephrolithiasis. Occupational And Environmental Medicine [Internet]. 2013, [citado 19, 2015]; 70(8): 561-567. Disponible en: http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=23703823&lang=es&site=ehost-live

Resumen:

Objectives: Nephrolithiasis (kidney stones) is a common disease with the prevalence that is increasing globally. We previously found that trimethyltin (TMT), a by-product of plastic stabilisers, can inhibit the H(+)/K(+) ATPase activity in renal intercalated cells and alter urinary pH, which is a known risk factor for nephrolithiasis. In this study, we conducted a cross-sectional analysis to evaluate the impact of chronic low level occupational TMT exposure on nephrolithiasis.

Methods: This study included 216 healthy workers with TMT exposure and 119 workers as controls with no TMT exposure. All study participants were administered a questionnaire and underwent a routine clinical examination including an ultrasonographic screening for kidney stones. Exposures were assessed by measuring TMT concentrations in personal air samples, blood and urine. Logistic regression analysis was used to estimate the ORs and 95% CIs for the risk of kidney stones.

Results: TMT exposed workers had a higher prevalence of kidney stones (18.06%) in comparison with control workers (5.88%). High TMT concentrations in personal air samples, blood and urines were positively associated with increased prevalence of kidney stones in workers exposed to TMT compared with controls workers (p-trend values=0.005, 0.008 and 0.002, respectively). The length of employment in plants with elevated TMT levels (duration of the exposure) was significantly associated with the increased prevalence of kidney stones (p trend=0.001). The ORs were 2.66 for <3 years, 3.73 for 3-<10 years and 7.89 for 10+ years of employment compared with control workers.