

NEPHROLITHIASIS SECONDARY TO INDINAVIR: THE CALCULATION “INVISIBLE TO THE EYE” FROM COMPUTED TOMOGRAPHY

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Abstract: Indinavir sulfate is a protease inhibitor in the human immunodeficiency virus (HIV) cycle. This inhibitor causes nephrolithiasis in up to 35% of patients. Indinavir stones are the only ones in which computed tomography (CT) is not able to visualize them. This work aims to describe the association of urinary lithiasis due to the use of indinavir and the “pitfalls” found in imaging tests.

Keywords: Indinavir, ART, HIV, nephrolithiasis, hydronephrosis.

CASE REPORT

A 67-year-old male patient, with HIV and on antiretroviral therapy (ART), sought the UPA complaining of low back pain and vomiting, with no changes in diuresis for 3 days. He reports a history of nephrolithiasis. Ultrasonography (US) was performed in the context of detecting worsening renal function (Cr 7.7 - 11.0 / K 7.2 - 6.0). Kidney stones and hydronephrosis were visualized, but it was not possible to visualize the ureters. The study was complemented with CT for a possible diagnosis of ureterolithiasis.

DISCUSSION AND DIAGNOSIS

When suspected urinary tract lithiasis, imaging methods are routinely used to confirm the suspected diagnosis and its complications such as hydronephrosis and associated renal parenchymal lesions. Typically, a simple abdominal x-ray, US of the kidneys and urinary tract and CT of the abdomen and pelvis are requested. In this case study, the patient presented significant bilateral ureterohydronephrosis, without evidence of ureteral and pyeloureteral stenosis or any other obstructive factor identifiable by CT.

Indinavir sulfate, present in ART, has low solubility in urine at physiological pH, with a high rate of urinary excretion, associated with

crystallization and the formation of radiolucent stones in the urinary tract, in approximately 34.4% of users of ART. damn it. Therefore, and considering the tests presented, obstruction by antiretroviral crystals is the likely etiology of bilateral ureterohydronephrosis.

CONCLUSION

Although CT of the abdomen and pelvis is the first-line imaging test in the diagnosis of renal lithiasis, the stones formed by the crystallization of indinavir sulfate are “invisible to the eye” on CT. Therefore, due to the still frequent use of this antiretroviral, its adverse effects must be promptly recognized by the radiologist to ensure an effective diagnosis and consequently adequate treatment for the patient.



Figure 1: Ultrasound images of the right kidney. On the left, longitudinal section, evidence of nephrolithiasis (black arrow), causing posterior acoustic shadow and hydronephrosis (white arrows). On the right, axial section, showing hydronephrosis (white arrows).

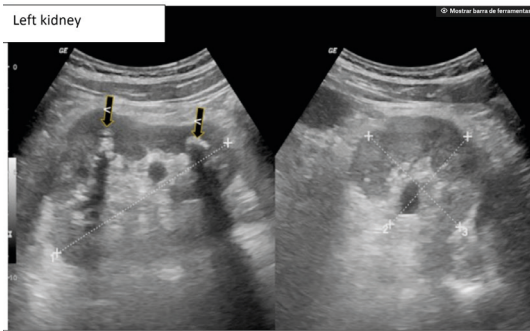


Figure 2: Ultrasound images of the left kidney. On the left, longitudinal section, evidence of nephrolithiasis, conditioning posterior Acoustic Shadow (black arrows). On the right, axial section.

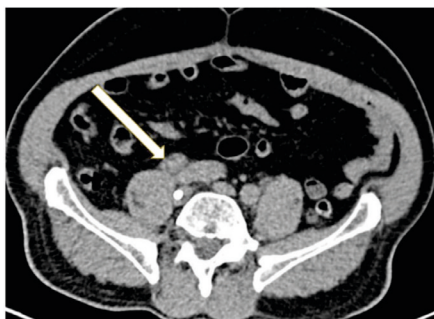


Figure 3: Abdominal computed tomography images without contrast in axial section show ureteral dilation on the right (arrow).

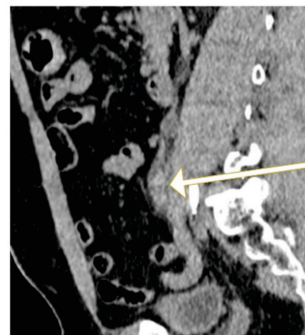


Figure 4: Abdominal computed tomography images without contrast in sagittal section shows ureteral dilation on the right (arrow).

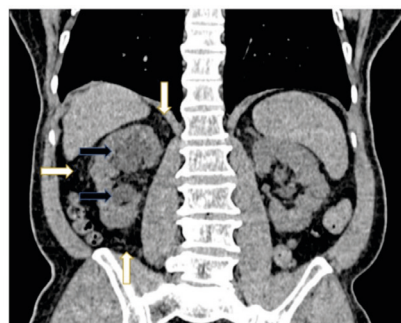


Figure: Abdominal computed tomography images without contrast in a coronal section, there is calycopyeloureteral dilation on the right (black arrows) with heterogeneity of the ipsilateral perirenal fat (white arrows).

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