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Case Report

Bilateral staghorn lithiasis: a case report

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ABSTRACT

Staghorn stones are large branching stones that fill part of the entire renal pelvis and calyces and can be complete or partial depending on the degree of occupation of the collecting system. Although kidney stones are more common in men, coral stones are reported less frequently in men than in women and are usually unilateral. Due to the significant morbidity and potential mortality attributed to staghorn stones, prompt evaluation and treatment are imperative. In general, the gold standard treatment for coral stones is surgical treatment to achieve a stone-free collecting system and preserve renal function.

Keywords: Staghorn lithiasis, Bilateral, Urology

INTRODUCTION

Staghorn stones are isolated stones that make up the bulk of the accumulation system. They are usually added to the tubules of the kidneys and to many or all of the calices. The term "partial staghorn" calculus refers to the branched rock that occupies part but not all of the aggregate system, while "full staghorn" calculus refers to the rock that occupies almost all of the aggregate system. Unfortunately, there is no consensus on clear definitions of staghorn calculus, such as the number of associated chalices needed to qualify for staghorn identification; Thus, the term "deer antlers" is often used to refer to the axons that occupy more than one part of the pelvic system, such as the renal pelvis with one or more calyceal extensions. In addition, determining the size of a "partial" or "complete" coefficient does not imply specific quantitative terms.[1,2]

Most corals consist of a mixture of magnesium and ammonium phosphate (struvite) and / or calcium carbonate apatite. Cores containing cystine or uric acid, in pure form or mixed with other elements, can also develop in "deer horn" or branch formation, but cores of calcium oxalate or phosphate rarely develop in this setting.[2,3]

Calcium carbonate apatite / struvite stones are also called "infected stones" due to their strong association with urinary tract infections caused by specific organisms that produce the enzyme urease, which promotes the formation of ammonia and hydroxide from urea.[3,4]

The alkaline and highly concentrated urinary environment of ammonia, along with the abundance of phosphate and magnesium in the urine, support the crystallization of magnesium ammonium phosphate (struvite), leading to the formation of large-scale composting. Other factors play a role, including the biofilm formation of exopolysaccharides and the incorporation of mucoproteins and other organic compounds into this matrix. The culture of the "infected stone" fragments obtained from both the surface and the

interior of the stone showed that the bacteria in the stone, making the stone infected unlike the stone.[5]

Duplicate urinary tract infections with urea-depleting organisms can lead to the formation of stones, and when "calculus infection" occurs, the infection tends to recur.[6,7]

Over time, untreated staghorn stones can damage the kidneys and / or lead to life-threatening sepsis. Infections and maintains kidney function. Although some studies suggest that it may be possible to sterilize small residual struvite fragments and limit subsequent stone activity, most studies suggest that residual fragments may develop and be a source of recurrent infection of the urinary tract.[7]

CASE REPORT

A 38-year-old male patient attended due to a 3-month pain in the right renal fossa with a previous history of multiple urinary tract infections in the last year. A computed tomography, revealed bilateral staghorn lithiasis (white arrows), complementary tests showed end-stage renal failure (serum creatinine level, 7.2 mg per deciliter). A urine culture was positive for Escherichia coli and Klebsiella aerogenes. The patient was treated with antibiotics and painkillers, surgical treatment was denied by the patient.

Figure 1: Bilateral staghorn lithiasis.

DISCUSSION

The staghorn lithiasis has an extremely low incidence, however, since it is not diagnosed, it can progress to a urological emergency due to the rapid progression to acute kidney injury. Although the study of choice is abdominal tomography, the lithiasis clinic should not be omitted in the context of the patient, since it can give us an early approach to diagnosis. As well as the history of previous infections that could have triggered this pathology. Various therapies have been proposed, but the one of choice remains a percutaneous approach, although new techniques should be evaluated for the total preservation of renal function in patients.[4-6]

CONCLUSION

Lithiasis is an extremely frequent pathology in urology services, putting renal function at risk if the renal calyces are completely occluded and causing this to progress significantly to renal injury. When these two are combined, size and bilaterality, it can be called a true urological emergency. The correct diagnosis, as well as the posterior approach, is essential to preserve full renal function.

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