Giant ureteral stone – case report
Litíase ureteral gigante – relato de caso

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ABSTRACT
Conventional surgery for the treatment of ureteral calculi is nowadays restricted to a few special situations or when minimally invasive treatment fails. Giant ureteral calculus is a rare disease. The classical treatment is ureterolithotomy with large ureteral incision. We present a case of a 16-year-old male who presented a ureteral stone measuring 11 cm. He was submitted to open surgery, with lithotripsy and an incision of 2 cm on the mid point of the calculus, which led to a less aggressive intervention on the ureter to remove the stone. There were no postoperative complications and the patient was discharged from hospital after 4 days. We speculate that this technical procedure could be performed by means of laparoscopy and be even less aggressive.

Keywords: Ureteral calculi/surgery; Laparoscopy

INTRODUCTION
Technological development enabled treating over 95% of cases of urinary lithiasis in a minimally invasive manner. Although there have been increasingly more restrictions, conventional surgery is indicated in some special cases. Giant ureteral calculus is a rare disease. Some authors define giant calculi as being over 5 cm long or weighing over 50 grams(1). The most used treatment is conventional ureterolithotomy and very often it is necessary to perform a large ureteral incision.

Since there are few publications on this issue, we describe a case, discuss about pathophysiology and treatment options, and suggest a surgical technique that is very simple but has not been previously reported in the literature.

CASE REPORT
A 16-year-old black male patient with a history of intermittent low back pain on the left for five years, of variable intensity and associated with afebrile urinary tract infections (UTI). He presented low weight and height development and no pain at fist percussion of the lumbar region.

The laboratory tests were normal, except for urinalysis showing hematuria and leukocyturia. The ultrasonography showed left hydronephrosis and preserved cortex/medulla relation. The excretory urogram showed left hydronephrosis and delayed excretion secondary to a ureteral calculus measuring approximately 11 cm (figure 1).
It was decided to perform open ureterolithotomy through an external pararectal incision by extraperitoneal approach. A 2-cm longitudinal incision was performed in the abdominal portion of the ureter, on the middle region of the calculus in the intraoperative period. Then, the calculus was “fractured” and two contiguous calculi measuring 5.5 and 6.0 cm were extracted through the ureteral incision (figure 2). The ureter was sutured with separate stitches and a double-J stent and a Penrose drain were placed. The surgical duration was 75 minutes. The patient was discharged on the fourth postoperative day.

**DISCUSSION**

Ureteral calculus is a highly prevalent condition in Brazil. Most cases are resolved by lithotripsy and endourological techniques and the conventional ureterolithotomy is an exception. According to the literature, this type of calculus is more frequent on the left side and in the distal ureter. A large calcareous mass attached to the mucosa makes the endoscopic procedure liable to complications.

The giant calculi, anatomical anomalies, failure of endourological techniques and lack of endourological armamentarium are the main indications for open conventional surgery.

Since it was a large and single calculus, a long ureteral incision would cause devascularization and risk of urinary fistula. Hence, a small 2-cm incision was made, the calculus “fractured” and two smaller fragments were later extracted. Ureteral aggression was minimal. We believe the technique described could be performed by laparoscopy, thus reducing surgical morbidity.

**CONCLUSION**

Giant ureteral calculus is not frequent. Despite technological advances and endourological procedures, conventional ureterolithotomy is still the most used approach. Using a surgical technique artifact, the calculus was extracted with minimal ureteral injury and excellent result.

**REFERENCES**