



### Giant Ureteric and Staghorn Calculi in a Young-Adult Nigerian Male: A Case Report

*Calculs Giant urétérale et vinaigrier dans un Homme jeunes adultes nigériens:  
Un rapport de cas*

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#### ABSTRACT

**BACKGROUND:** Ureteric calculi are usually small and solitary. The term “giant” has been applied to ureteric calculi that are more than five cms in length and/or 50g or more in weight. These are uncommon and may present with few or no urological symptoms and might be ignored or be missed.

**OBJECTIVE:** To present a rare case of a giant left ureteric calculus associated with an ipsilateral staghorn calculus.

**METHODS:** A 31-year-old Nigerian male presented with recurrent left abdominal pain, dysuria, urinary frequency, and fever which had been on for 10 years. Patient was clinically evaluated. He had plain abdominal X-rays, abdominal ultrasonography and intravenous urography. He had to undergo nephroureterectomy.

**RESULTS:** Patient took analgesics and antibiotics purchased from patent chemist shops for relief of symptoms by himself. He was fit except for a hard cylindrical mass felt arising from the pelvis. Abdomino-pelvic ultrasound scan, plain abdominal X-ray and Intravenous urogram showed a giant ureteric calculus with an ipsilateral staghorn calculus in a non-functioning hydronephrotic left kidney. There was no evidence of underlying anatomic or metabolic abnormalities. He had left nephroureterectomy. The ureteric calculus measured 10.5 x 3.0cm and weighed 20.1gm.

**CONCLUSION:** Giant ureteric calculi are rare. The association giant ureteric calculus with an ipsilateral staghorn renal calculus without underlying anatomic abnormalities appear not have been reported earlier. *WAJM 2010; 29(3): 193–195.*

**Keywords:** Calculus; ureteric; giant; staghorn calculus; nephroureterectomy; intravenous urogram; kidney; nonfunctioning hydronephrosis.

#### RÉSUMÉ

**CONTEXTE:** calculs urétéraux sont généralement de petite taille et solitaire. Le terme «géant» a été appliquée à des calculs urétéraux qui sont plus de cinq cm de longueur et / ou 50g ou plus en poids. Ces sont rares et peuvent présenter des urologiques peu ou pas de symptômes et peut être ignoré ou pas manquer.

**OBJECTIF:** Présenter un cas rare d'un géant gauche urétérale calcul associée à un calcul coralliforme ipsilatéral.

**MÉTHODES:** Un homme de 31 ans du Nigeria a présenté avec récurrent gauche des douleurs abdominales, une dysurie, pollakiurie, et la fièvre qui avait été pendant 10 ans. La patiente a été cliniquement évalué. Il avait plaines radiographies abdominales, douleurs abdominales échographie et une urographie intraveineuse. Il a dû subir nephroureterectomy.

**RÉSULTATS:** Le patient a pris des analgésiques et des antibiotiques achetés de pharmacies de brevet pour le soulagement des symptômes par lui-même. Il était capable de l'exception d'une masse dure cylindrique estimé découlant de le bassin. scanner à ultrasons abdomino-pelvienne, de l'abdomen sans X-ray et urographie intraveineuse a montré une urétérale géant calcul avec un calcul coralliforme ipsilatéral dans un non-fonctionnement hydronephrotique rein gauche. Il n'y avait aucune preuve des sous-jacents des anomalies anatomiques ou métaboliques. Il avait laissé néphroureterectomie. Le calcul urétéral mesure 10,5 x 3.0cm et pèse 20.1gm.

**CONCLUSION:** Giant calculs urétéraux sont rares. L'association géant calcul urétéral avec un vinaigrier rénale homolatérale calcul sans anomalies anatomiques sous-jacentes ne semblent pas ont été signalés plus tôt. *WAJM 2010; 29 (3): 193–195.*

**Mots-clés:** Calcul; urétérale; géant calcul coralliforme; néphroureterectomie; urographie intraveineuse; rein; non fonctionnel hydronephrose.

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## INTRODUCTION

Ureteric calculi are usually small and solitary.<sup>1-4</sup> The term “giant” ureteric calculus has been applied to a ureteric calculus which exceeds five cm in its greatest diameter or weighs at least 50g and are rare.<sup>4-6</sup> The aetiology of giant ureteric calculi still remains unclear, but urinary tract anatomic or metabolic abnormalities are implicated among the risk factors.<sup>5</sup> Despite recent advances made in the past two decades with minimally invasive surgical techniques, open surgical procedures still remain the best treatment option for complicated giant ureteric calculi.<sup>5,8</sup>

We report a rare case of a giant left ureteric and staghorn calculi in a young-adult Nigerian male, an association which appear not have been previously described.

## Case Report

The patient, a 31-year-old Islamic Scholar from Maiduguri presented with a 10-year history of recurrent dull aching sometimes colicky left loin/lumbar pains which radiated to the groin. He had had several episodes of associated frequency, dysuria with urgency and fever but no chills or rigors. There was no history of haematuria or passage of stone in his urine. Patient resorted to taking analgesics and antibiotics purchased from patent chemist shops for the relief of his symptoms.

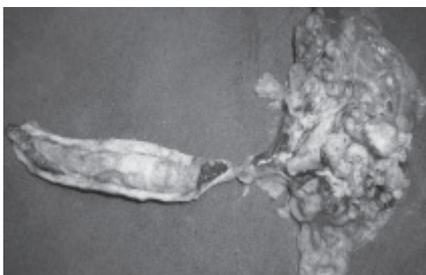
Physical examination revealed a fit-looking young man with a palpable, non-tender hard oblong mass arising from the pelvis just lateral to the midline in the left lumbar region. The kidneys were not ballotable. There was microscopic haematuria, but urine was sterile on culture with increased leucocytes and no schistosomal ova. Blood urea was 3.9mmol/l and creatinine 105µmol/l. Serum calcium and uric acid were normal. Plain abdominal X-rays and IVU showed a long calcified opacity suggestive of a giant ureteric calculus and ipsilateral staghorn calculus with non-functioning left kidney but normal functioning right kidney (Figs. 1 and 2). Abdomino-pelvic ultrasound scan showed severe left hydronephrosis. Full blood count (FBC) and differentials were essentially normal.



**Fig. 1: KUB shows long Laminated Left Giant Ureteral and Staghorn Calculi.**

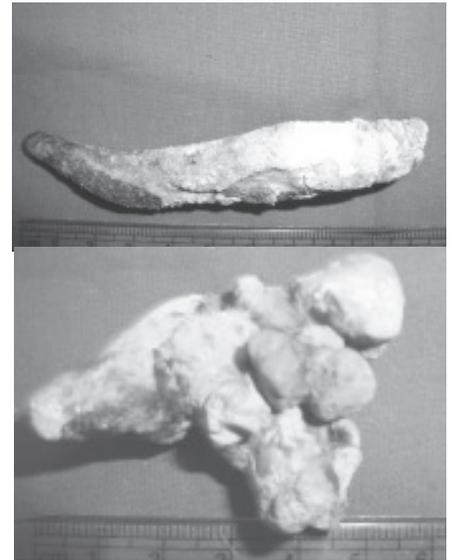


**Fig. 2: Intravenous Urogram shows normal functioning right and non-functioning left kidney.**



**Fig. 3 . Bisected Ureter and Kidney showing Impacted Giant Ureteric and Staghorn Calculi**

A diagnosis of a giant ureteric calculus with staghorn calculus in a non-functioning left hydronephrotic kidney was made. He had a left nephroureterectomy by the transperitoneal



**Fig. 4: Removed Calculi: Upper Panel, Giant Ureteric Calculus measuring 10.5cm x 3cm; Lower Panel, Staghorn Calculus measuring 5cm x 4cm.**

approach. Bisection of the ureter and kidney showed a giant ureteric and staghorn calculi in a hydronephrotic kidney (Fig 3 and 4). Histology confirmed the hydronephrosis and hydroureter. The composition of the ureteric calculus included Calcium carbonate, calcium oxalate, magnesium carbonate, ammonium carbonate and cystine.

## DISCUSSION

Giant ureteric calculi are rare<sup>1-4</sup> and extremely rare in paediatric age group.<sup>1,5,9</sup> Most of the literature reports on giant ureteric calculi are case reports because of the rarity of the disease.<sup>4-6</sup> They are usually solitary and are commonly found on the left,<sup>3,4,9</sup> including that of our patient. However, a single case of multiple giant ureteric calculi has been reported by Pereira Arias *et al.*<sup>6</sup> The aetiopathogenesis of giant ureteric calculi remains unclear, but urinary tract malformations (megaureter, ureterocele, ureteral duplication, stricture, etc), either alone or associated with a metabolic predisposition are important risk factors<sup>5</sup>. Such abnormalities have been reported by various authors; partial or complete duplication of the urinary tract,<sup>4,10,11</sup> megaureter,<sup>12</sup> ureterocele<sup>13,14</sup> and ureteral polyp.<sup>15</sup> In most of the reported cases there is usually some anatomical anomaly of the urinary tract, but none in our patient