The world's heaviest ureteric calculus?

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A 42-year-male presented with history of acute pain in the left lumbar area of 4 hours duration. There was no fever, pyuria or bacteruria on presentation, nor any history suggestive of urinary tract infection or stone disease in the past. However he had taken various over-the-counter analgesics in the past 10 years to relieve similar pain episodes.

Physical examination was unremarkable. Hematological and biochemical parameters were within normal limits and urine culture was sterile. X-ray of the kidney-ureter-bladder (KUB) area revealed a 14×10 cm radio-opacity in the left lumbar area, overlapping the left sacro-iliac joint. Intravenous pyelogram (IVP) showed good excretion on both sides with gross hydroureteronephrosis (HDUN) on the left side due to a strange radiodense shadow in the left hemipelvis (Fig. 1). Contrast enhanced CT (CeCT) was done to ascertain the diagnosis – was it a foreign body; or a calcified growth; or a calculus within a diverticulum or due to some ureterocoele. But the radiological dilemma persisted.

Preoperative cystourethroscopy showed normal bladder mucosa and ureteric orifice. However the intramural part of the left ureter seemed filled up from within [1]. A 15×10 cm radiodense opacity was confirmed upon fluoroscopy. Unsure about the final preoperative diagnosis, the abdomen was opened with a midline vertical incision. The left ureter was found to be grossly dilated to the extent of 9 cm with a stony hard content within (Fig. 2). The

ureteric wall was highly fibrosed and the insertion of the ureter into the urinary bladder could not be clearly identified. Ureterolithotomy revealed a giant ureteric calculus of 13×8 cm along with 87 secondary calculi (Fig. 3). Ureteric tailoring was undertaken along with reimplantation (Lich-Gregoir) of the ureter.

Fig. 1 IVP showing a strange radio opaque density in the pelvis with proximal HDUN

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Fig. 2 Peroperative view during ureterolithotomy of the ureter dilated upto 7 cm

Fig. 3 Peroperative ureteric calculi specimen

Postoperative assessment of the ureteric calculi revealed a total stone mass of 300 g with a single large calculus weighing 202 g - which itself is the heaviest ureteric stone ever reported in literature. On analysis of stone fragments it was reported as 93% CaO dehydrate and 7% uric acid. Recovery of the patient was uneventful. There was complete disappearance of HDUN on IVP at 3 months with absence of any vesico-ureteral reflux on micturating cystourethrogram (MCU). Urine culture was sterile.

Ureteric calculi in adults are rare and generally occur in patients who neglect treatment for urological symptoms for long. Giant ureteric calculi have been reported sparsely in

literature [2]. Total ureteric stone burden as much as 300 g with a single component weighing 202 g are things which are being reported for the first time in literature [3].

References

1. Golomb J, Korezak D, Lindner A (1987) Giant obstructing calculus in the distal ureter secondary to obstruction by a ureterocoele. *Urol Radiol* 9(3):168–170
2. Ostfeld D, Meyer JE, Fagelman D, Fagelman M (2008) Giant ureteral calculi. *Urology* 72(3):517–520
3. Sabnis RB, Desai RM, Bradoo AM, Bapat SD (1992) Giant ureter stone. *J Urol* 148(3):861–862