Case Report

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Extracorporeal Shock Wave Lithotripsy for Calcified Ureteral Catheter

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Key Words

Lithotripsy, extracorporeal
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Abstract

Long-term ureteral stenting causes calcification of the catheters which needs extracorporeal shock wave lithotripsy (Dornier Medical Systems, Inc., Marietta, Ga., USA) before safe removal can be planned.

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Case Report

In June 1987, a healthy 40-year-old male patient presented with an ureteric stone in the left pyeloureteric junction measuring 15×11 mm and causing mild local obstruction. Flush back maneuver was unsuccessful, and ureteral stenting was performed (Ch 6 Fr double J catheter) in combination with lithotripsy. Extracorporeal shock wave lithotripsy (ESWL; Dornier Medical Systems, Inc., Marietta, Ga., USA) was performed with a Lithostar (Siemens, Erlang-en, FRG). The anesthesia-free outpatient procedure was performed with up to 1,500 shock waves ranging from 15.7 to 17.5 kV. Perfect disintegration was achieved, and the catheter was removed as the minute fragments were thought to be able to undergo silent evacuation. Severe obstruction necessitated new ureteral stenting (Ch 6 Fr

Fig. 1. Calcified DJ stent before ESWL.

Fig. 2. ESWL on the distal calcified DJ tip (1,000 × 17.5 kV).

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Fig. 3. ESWL on the normal calcified DJ tip (2,000 × 18.1 kV).

Fig. 4. ESWL on the kidney lower-pole calculus (2,000 × 17.5–18.1 kV).

double J catheter) beyond an impacted fragment measuring 3 × 4 mm located in the proximal ureter. Supplementary sessions were performed in the next 6 months as the fragment remained impacted.

A total of 8,000 shock waves ranging from 15.7 to 19 kV was delivered. In the interval period, the patient developed calcification around both the proximal and distal catheter tips (fig. 1).

These calcifications were successfully treated in one ESWL session using 1,000 shock waves at 17.5 kV on the distal end, with the patient in the prone position (fig. 2), and 2,000 shock waves at 18.1 kV at the proximal end, in the supine position (fig. 3).

A left-kidney lower pole calculus was treated 1 week later by lithotripsy with 2,000 shock waves ranging from 17.5 to 18.1 kV (fig. 4). Lasertripsy was performed after 2 weeks on the remaining proximal ureteric stone, and the ureteral catheter was simultaneously easily removed.

Comment

This case draws attention to three points: (1) The length of an indwelling catheter should be limited. (2) Calcification of ureteral catheters can occur. (3) Calcification of ureteral catheters can be successfully treated by ESWL before removal.