

MP 11 / 18

METHOD OF HYDRAULIC PRESSURE DILATATION : UROPUMP VS PEDITROL –A PROSPECTIVE COMPARATIVE STUDY.

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Introduction :

Since the popularization of rigid and flexible ureteroscopy, there has been a tremendous surge in the design and production of instruments for ureteral dilatation and maintaining clarity of vision during the procedure. The most widely used method for ureteral dilatation and to have clear vision during ureteroscopy is hydraulic pressure. Ureteromat/uropump is probably the safest and the most time saving method of ureteral dilatation causing the least degree of injury to urothelium, because there is mechanical pressure against the wall of ureter and water pressure constantly stretches and keeps the walls apart, allowing the passage and fragmentation of stone easy. Peditrol, is novel, hand free irrigation device which delivers a bolus of irrigant through ureteroscope allowing procedure to be under good vision.

Aim: To compare prospectively the safety and efficacy of Peditrol, in comparison to Uropump during ureteroscopy.

Method :

Between April 2004 to June 2004, 40 patients were prospectively included. Study was divided into two groups Group A in whom Uropump was used and Group B in whom was Peditrol used during ureteroscopy, both group includes 20 patients each. Ureteric stones at all levels were included. Operative time, amount of irrigant consumed, stone migration rate, comfort of surgeon was compared. Intrapelvic pressure was measured through percutaneous nephrostomy during procedure in Peditrol group.

Result :

Operative time was 70.2 ± 10.4 mins in Group A while it was 60.6 ± 11.2 mins in Group B ($P < 0.32$). Irrigation consumed was 3 liters in Group B and in Group A it was 6 liters ($P < .001$). Surgeon was more comfortable while using Peditrol. There was upward stone migration in 2 cases in Group A, no stone migration was observed in Group B. Intrapelvic pressure was less than 20 cmH₂O in Group B.

Conclusion :

Peditrol is a novel, hand free irrigation device is an useful device which can be safely used during ureteroscopy.