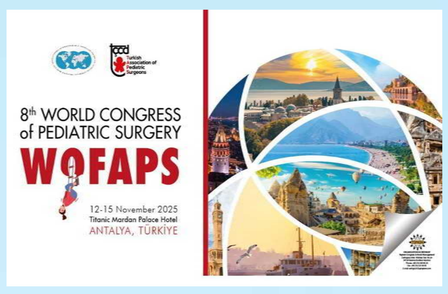

Management of Ureteropelvic Junction Obstruction In Newborns; Decision Making Process and Role of Laparoscopy

Beytullah Yağız, Merve Çelenk, Berat Dilek Demirel.

Ondokuz Mayıs University, Faculty of Medicine, Department of Pediatric Surgery, Samsun, Turkey

Introduction: The management of ureteropelvic junction obstruction in newborns is challenging. Major challenge are confirmation of obstruction and confirming that the kidney function is significant enough that surgery is justified.As the newborn kidney is immature, nuclear studies may not not be reliable and ultrasonography alone can't answer these two major concerns.

Materials And Methods: The newborns (<31 days) who underwent pyeloplasty for ureteropelvic junction obstruction between 2007 and 2025 are enrolled in the study. The demographics and clinical data are retrospectively evaluated.

Results: A total of 17 patients with 20 renal moiety are enrolled but 2 were excluded due to nonfunctioning kidneys and only 15 moieties are enrolled as 3 moieties of 3 bilateral patients were operated after the newborn period. One of the excluded patients have underwent nephrostomy and non-functional kidney was confirmed as no urine output was observed. The other patient's family refused nephrostomy. DMSA scintigraphy of both patients after the newborn period confirmed that involved kidneys had no function. Eight patients (53%) underwent open, 7 (47%) underwent laparoscopic pyleoplasty. Twelve patients were boys(80%) and 3 (20%) were girls. Median age at operation was 27 days (5-30). Six patients underwent preoperative nephrostomy (40%) and differential creatinine clearance calculation to confirm a functional kidney. Mean postoperative DFR of these patients was 35.33 (±17.02). Mean preoperative and postoperative pelvic diameters were 37.8 (±31.72) mm and 11,4 (±10.83) mm, respectively. Nine patients underwent preoperative MAG3 scan with a median DFR of 44.77% (11-69%) which increased to 50% (1-56%) after the operation. The DFR of involved renal moiety reduced in 3 patients but none are regarded failed as USG parameters (kiney dimensions and pelvic diameters) improved. In a median follow up of 28 months (3-171 months), none was regarded as surgical failure.

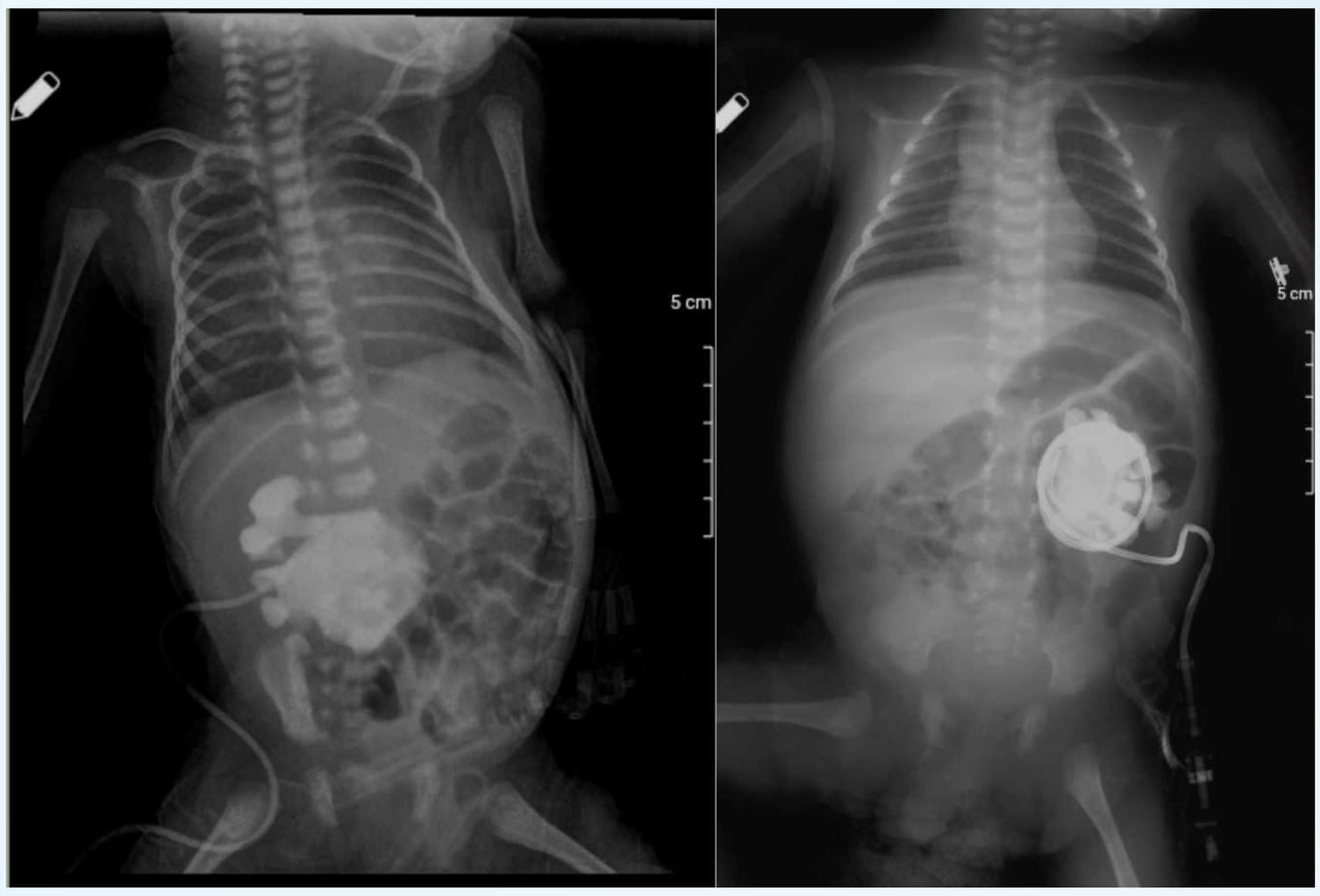

Figure 1a and 1b: Preoperative nephrostomy and antegrade pyelography.

Figure 2a and 2b: Laparoscopic pyeloplasty in progress for left UPJO.

Conclusion: Severe hydronephrosis with suspected UPJO is hard to handle in newborns. Achieving a correct diagnosis is hard as the kidney function can not be reliably evaluated in this age group. Furthermore, technique of choice is also controversial. Depending on the patient, combinations of USG, nephrostomy and scintigraphy may help the diagnosis, and both open and laparoscopic techniques can be performed with outstanding success and choice depends on the surgeons' experience.