UNIVERSITY OF UTAH
HEALTH CARE

Percutaneous Renal Hilar Blockade to Predict Success of Auto Kidney Transplantation for Loin Pain Hematuria Syndrome

Jeffrey Campsen[1], MD, **Mitchell Bassett, MD[3]*,** Ryan O'Hara, MD[2], Heather F. Thiesset, MPH[1], Robin D. Kim, MD[1], Rulon Hardman, MD, PhD[2], Blake D. Hamilton, MD[3]*

Department of Surgery, Division of Transplantation and Advanced Hepatobiliary Surgery[1]; Department of Radiology, Section of Interventional Radiology[2]; Department of Surgery, Division of Urology[3], University of Utah School of Medicine, Salt Lake City, Utah

Introduction:

- Loin pain hematuria syndrome (LPHS) is not well understood and remains difficult to treat
- Renal auto-transplantation (RAT) has been used to treat LPHS
- Successful pain relief after RAT ranges from 25-65%
- Patient selection for RAT remains challenging
- Percutaneous Renal Hilar Blockade (RHB) has been used in patient selection for RAT
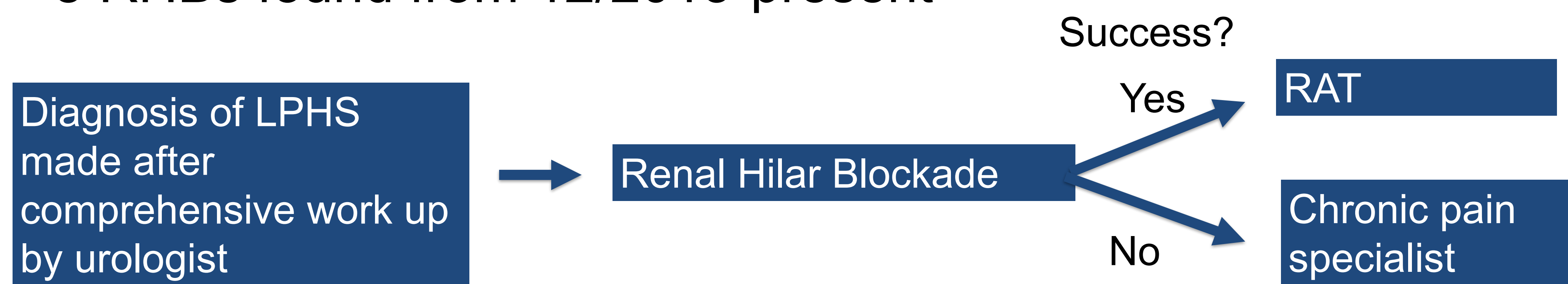- No standardized protocols exist in the literature for RHB

Methods:

- Prospectively maintained database queried for RHBs
- 8 RHBs found from 12/2013-present

Diagnosis of LPHS made after comprehensive work up by urologist → Renal Hilar Blockade → Success? Yes → RAT / No → Chronic pain specialist

Percutaneous Renal Hilar Blockade:

- Informed consent is obtained
- Pre-intervention pain assessment using a 0-10 numeric pain rating scale.
- Patient in positioned prone on the CT gantry.
- Skin is cleansed using chlorexidine scrub and anesthetized using 1% lidocaine.
- Using CT guidance, a 21G chiba needle is advanced to the posterior renal hilum.
- Aspiration is performed to ensure a vessel has not been entered.
- A solution of 10ml 2.0% lidocaine, 10ml 0.25% Marcaine, and 40mg of Kenalog are injected slowly to infiltrate near the mid to distal renal artery before bifurcation
- Post-intervention pain assessment using a 0-10 numeric pain rating scale.
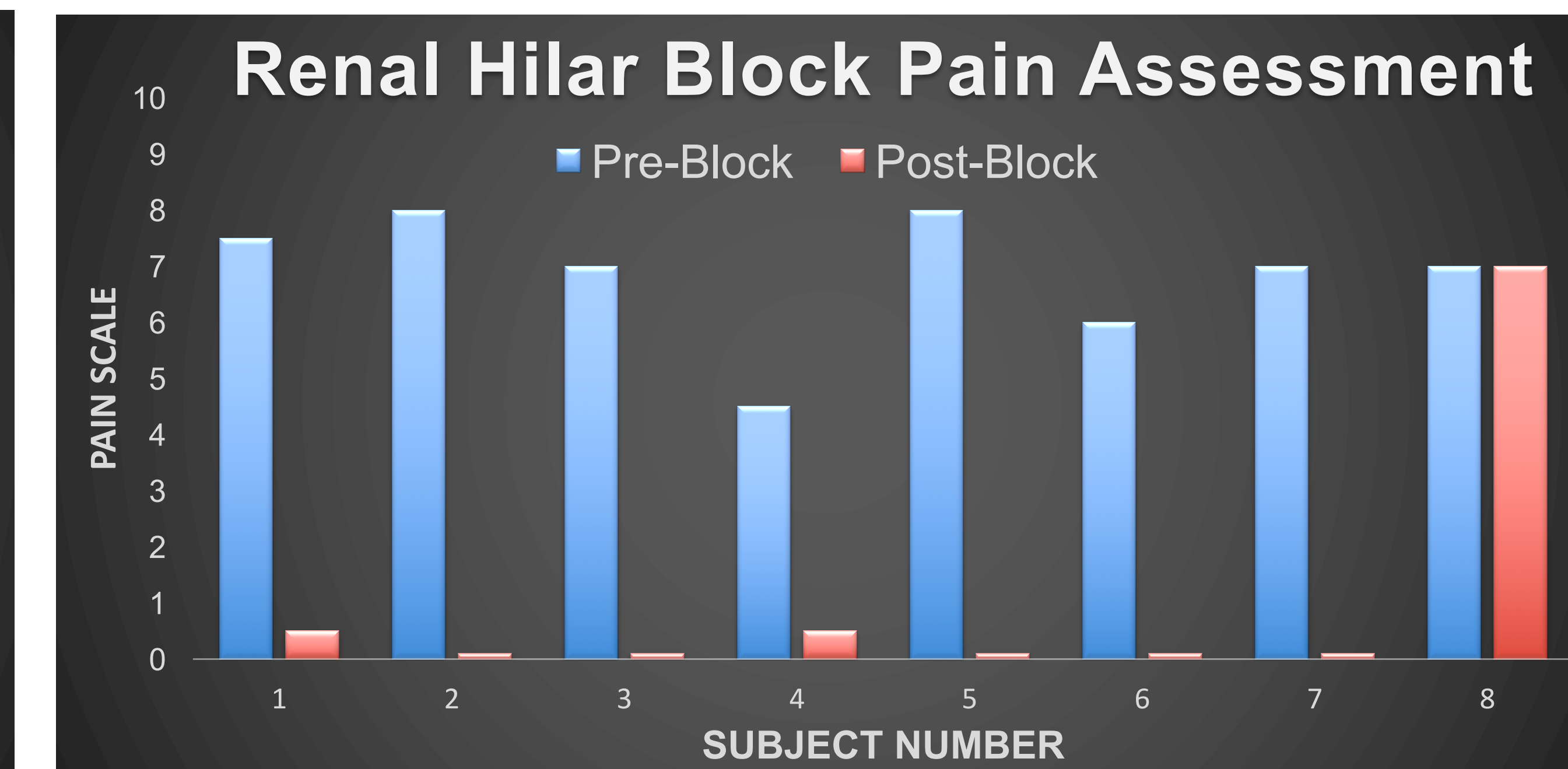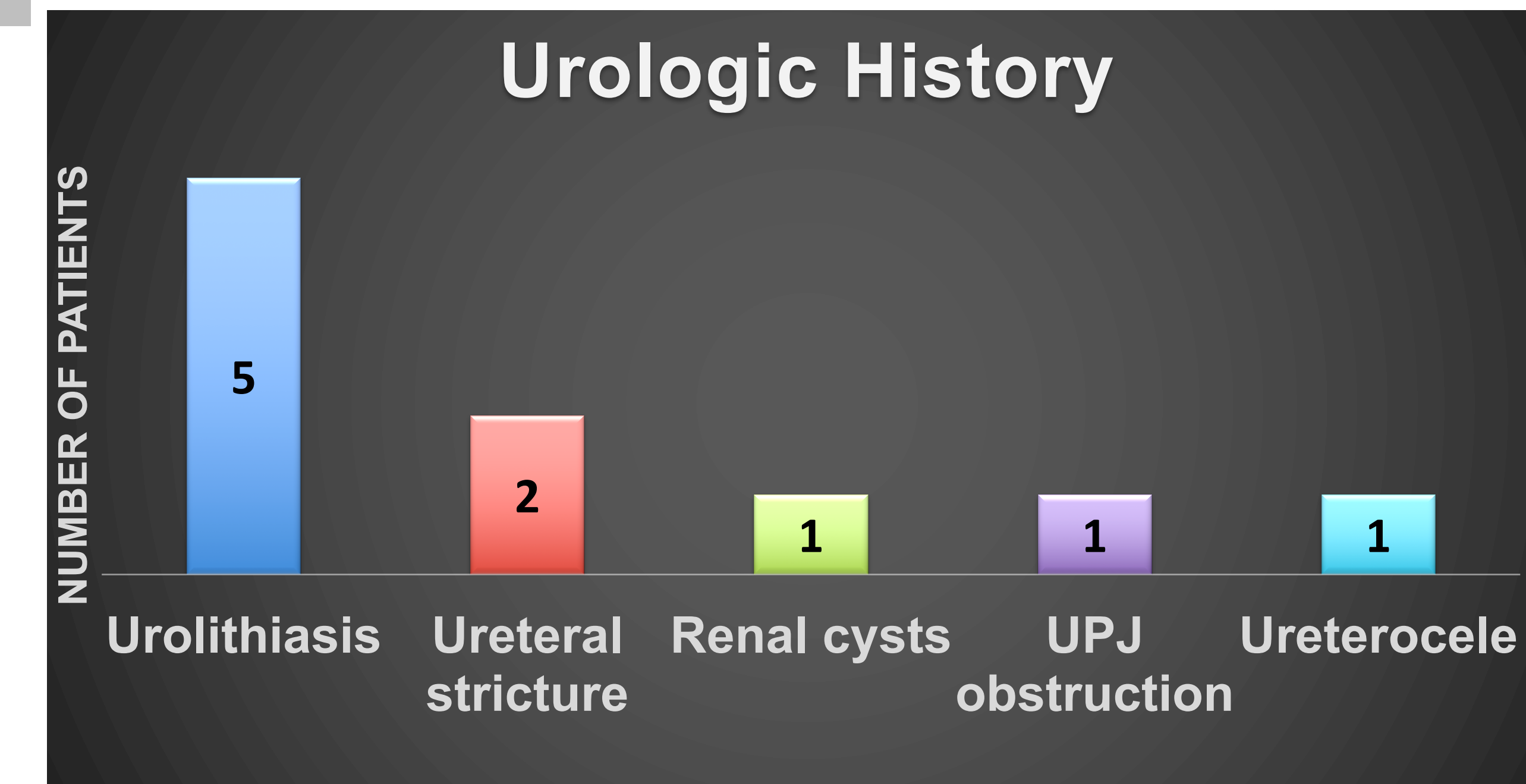- Patient observed with vital signs for one hour post procedure

Objective:

- **To report a standardized method for percutaneous renal hilar blockade to be used in loin pain hematuria syndrome evaluation**

Hypothesis:

- **Percutaneous renal hilar blockade will predict success of auto kidney transplantation in loin pain hematuria syndrome**

Results:

Table 1: LPHS Demographics	
LPHS patients undergoing RHB	8
Post-RHB treated with RAT	7
Gender	5 males, 3 females
Average age (years)	33.5
Surgeries prior to RHB	2.1
Pain Laterality	5 Right/3 Left

Table 2: Results of RHB and RAT	
Average pain scale before RHB (0-10)	6.8 (range: 4.5-8)
Average pain scale after RHB (0-10)	1 (range: 0-7)
Average difference in pain scores	5.8 (range: 0-8)
Block duration (median)	5.5 h
Block complications	None
Laparoscopic RAT	7/7

Urologic History

Number of patients: Urolithiasis 5; Ureteral stricture 2; Renal cysts 1; UPJ obstruction 1; Ureterocele 1

Renal Hilar Block Pain Assessment

Pre-Block / Post-Block (Pain scale by subject number)

Conclusion:

- **Renal hilar blockade can be considered a tool in the evaluation of patients with loin pain hematuria syndrome**

Future Directions:

- Investigate predictive value of a successful renal hilar block on both immediate and delayed post-renal auto transplantation pain scores