

INTRODUCTION

- In comorbid patients or patients with hostile abdominal and retroperitoneal compartments, the tube-dependent kidney presents a unique management challenge
- Both definitive surgical management and routine tube exchanges carry significant risk
- Renal embolization is a minimally invasive, useful tool in renal bleeding and malignancy
- Also known as “transarterial nephrectomy”
- Chronically obstructed kidneys often have minimal contribution to global renal function
- We developed a protocolized pathway for successfully and safely providing a less invasive alternative to classical surgical management strategies in these obstructed, tube-dependent renal units (figure 2)

METHODS

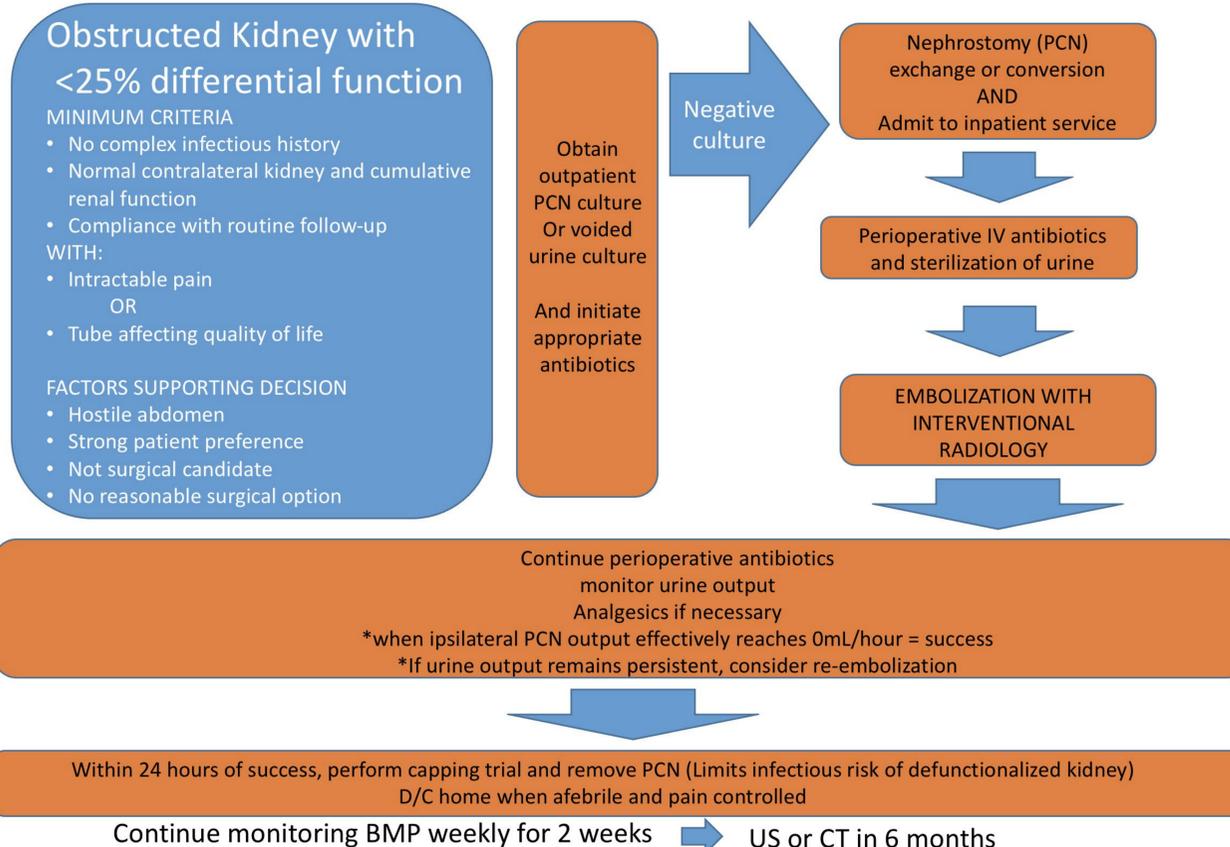
- Retrospective chart review of patients undergoing angioembolization for the specific goal of rendering patients tube free (either nephrostomy tube or ureteral stent) from symptomatic renal obstruction between April 2018 and September 2021
- Embolization performed by interventional radiology using a combination of lipiodol/alcohol and permanent coils



Figure 1: Before and after renal embolization digital subtraction angiography. Note the use of both lipiodol and coils as well as the pre-existing nephrostomy tube to monitor urine output post-procedurally.

METHODS (continued)

Figure 2:



RESULTS

- Seven patients with either advanced comorbidities or hostile abdominal and retroperitoneal compartments underwent renal embolization for an obstructed, atrophic kidney
- All patients were rendered tube-free in the affected renal unit
- 57% of patients required a second embolization procedure to render the target kidney anuric (most often due to persistent urine output)
 - 42% within 90 days, one patient had delayed collateralization
- Mean increase in serum creatinine was 0.04 (0-0.09)
- Median follow-up time was 26mo

RESULTS (continued)

Complications (within 90 days)	
Re-embolization	42%
Post-embolization syndrome	71%
Fevers	28%
Leukocytosis	28%
Pain [†]	28%
Sepsis	0%

Figure 3: Complication rates of embolization for obstructed, atrophic kidneys. Post-embolization syndrome is defined as having any of the following: fever, leukocytosis, or pain (persistent after post-operative day 1)[†]

CONCLUSIONS

- Under specific circumstances, renal angioembolization can be a safe alternative to nephrectomy or definitive reconstruction in high-risk patients with end-stage, obstructed kidneys.
- These patients are often medically and socially complex.
- Adherence to our protocolized pathway help to mitigate specific risks in the delivery of this less invasive management option

