RENAL ARTERY ANGIOGRAPHY IN PEDIATRIC TRAUMA USING A NATIONAL DATA SET

Angelena Edwards, Catherine J Chen, Niccolo M Passoni, Bruce J Schlomer, Micah A Jacobs

UT Southwestern Medical Center/Children’s Medical Center
Department of Urology
Dallas, TX, USA
PURPOSE OF STUDY

This study uses the National Trauma Data Bank (NTDB), to evaluate renal outcomes after renal artery angiography in the setting of renal trauma.

Hypothesis: Pediatric patients undergoing renal artery angiography for renal trauma are unlikely to require additional urologic interventions.
STUDY DESIGN

- Children ≤ 18 years old with renal trauma from 2012 to 2015
- Abbreviated Injury Score (AISS) codes were converted to American Association for Surgery of Trauma (AAST) grades.
- Patients undergoing renal artery angiography, and additional renal interventions such as nephrectomy, partial nephrectomy, percutaneous nephrostomy tube or ureteral stent placement were identified using ICD-9 codes.
PATIENT POPULATION

536,379 Pediatric Trauma Cases

4,506 Renal Injury

87 had Renal artery angiography (ICD-9 88.45)

Mechanism of Injury:
87% (n=76) blunt
9% (n=8) penetrating
3% (n=3) unspecified

6 AAST Grade I
10 AAST Grade II
24 AAST Grade III
37 AAST Grade IV
10 AAST Grade V
REQUIRED ADDITIONAL UROLOGIC INTERVENTION AFTER RENAL ARTERY ANGIOGRAPHY

- 87 had Renal Artery Angiography
  - High Grade Injuries (IV-V)
  - Low Grade Injuries (I-III)
  - No Additional Urologic Intervention
  - 8% (7/47) Additional Urologic Intervention
  - 2 Nephrectomy
  - 2 Partial Nephrectomy
  - 3 Ureteral Stent Placement
  - 1 Nephrostomy Tube (prior to partial nephrectomy)
  - 1 Aspiration of Kidney (prior to ureteral stent)
CONCLUSIONS

● Renal artery angiography remains an uncommon procedure used in the treatment of pediatric renal trauma.

● Additional urologic procedures were only seen in higher grade injuries following renal artery angiography in the setting of pediatric renal trauma.
Thank you