



**UVA Children's Hospital**



# **A Case of Large Abdominal Cyst with Diagnosis of Crossed Fused Ectopic Kidney with Severe UPJ Obstruction**

Christopher Ballantyne MD, Marisa Gray, MD, Sean T. Corbett MD, Nora G. Kern, MD  
University of Virginia Health System



# UVA Children's Hospital



## R.S.

- 5 y.o. girl referred to pediatric urology clinic for assessment and management of cystic abdominal mass
- Adopted from India
- Known absent left kidney



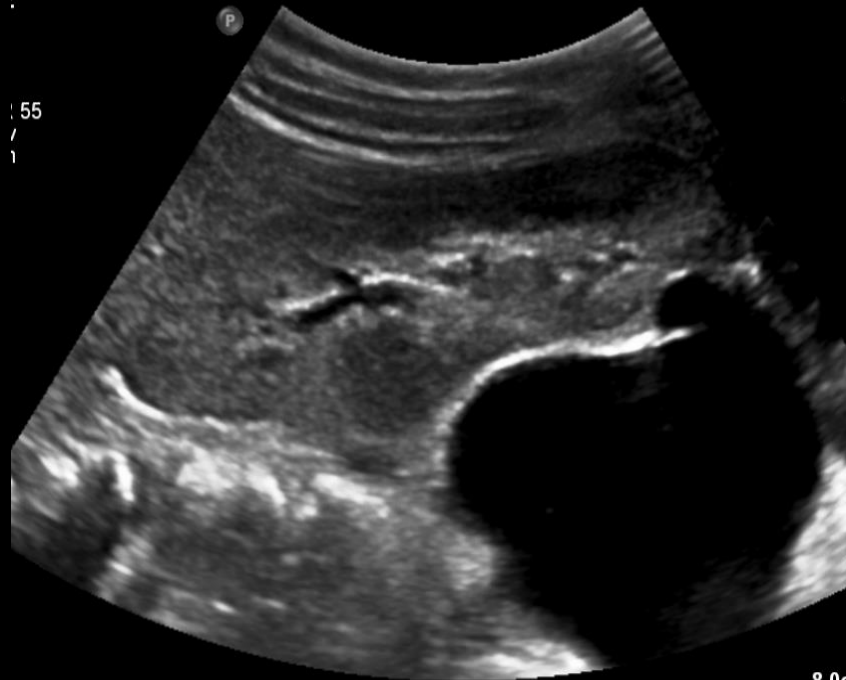
# UVA Children's Hospital



## HPI

- PMH
  - Absent left kidney
  - Ectopic anus (repaired at one week of life)
  - Bilateral radial hypoplasia with contracted hands
  - VACTERL association
- Birth history
  - Unknown due to adoption

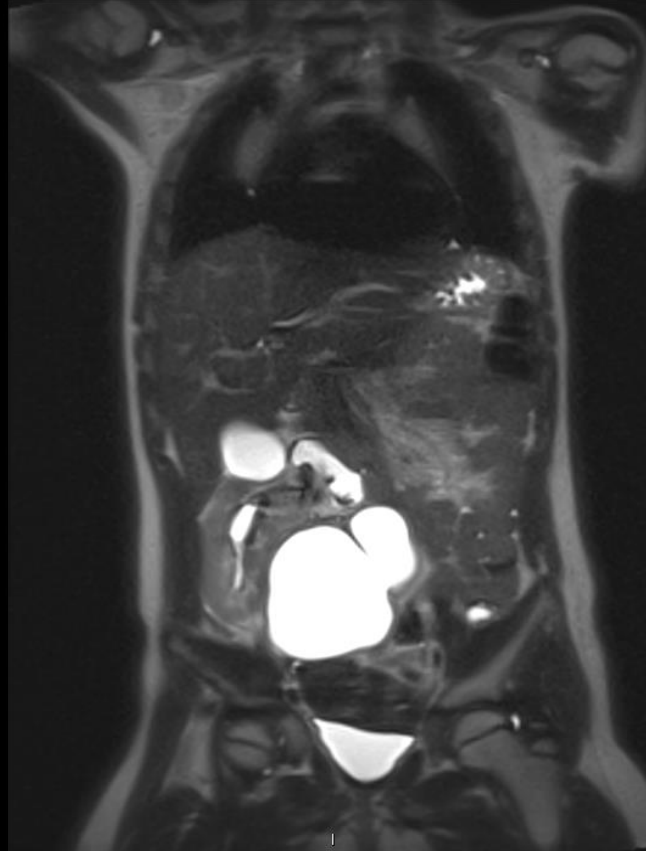
# Renal US



Long Rt Kidney

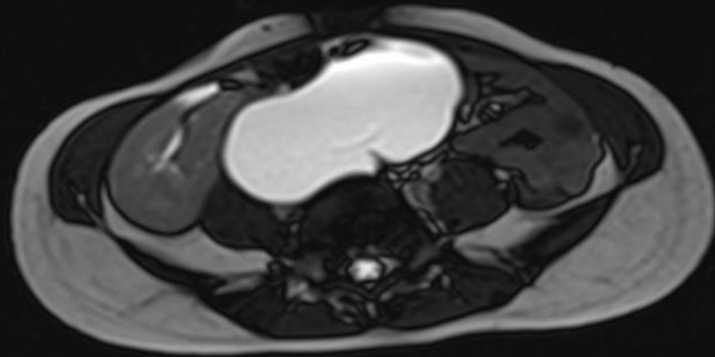
# MRI

OF OUTSIDE FILMS ABD/PELVIS



# MRI

OF OUTSIDE FILMS ABD/PELVIS





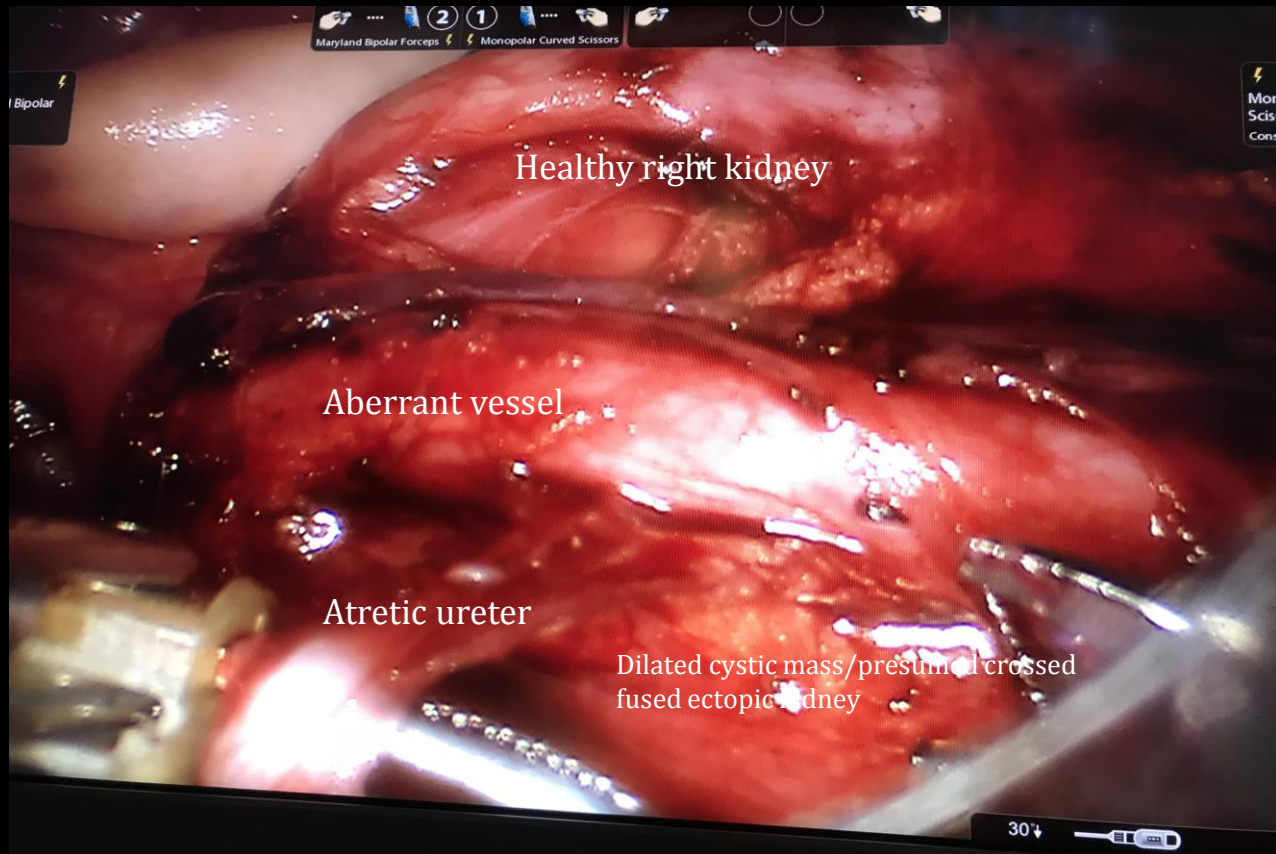
# UVA Children's Hospital



## O.R

- Cystourethroscopy with right retrograde pyelogram
  - No left ureteral orifice found cystoscopically within urethra or vagina
  - Gaping right ureteral orifice easily annulated
  - Right retrograde pyelogram: no duplication, no filling defects, no hydronephrosis, malrotation of right kidney
- Robotic-assisted laparoscopic partial nephrectomy

# Operative Findings







# UVA Children's Hospital



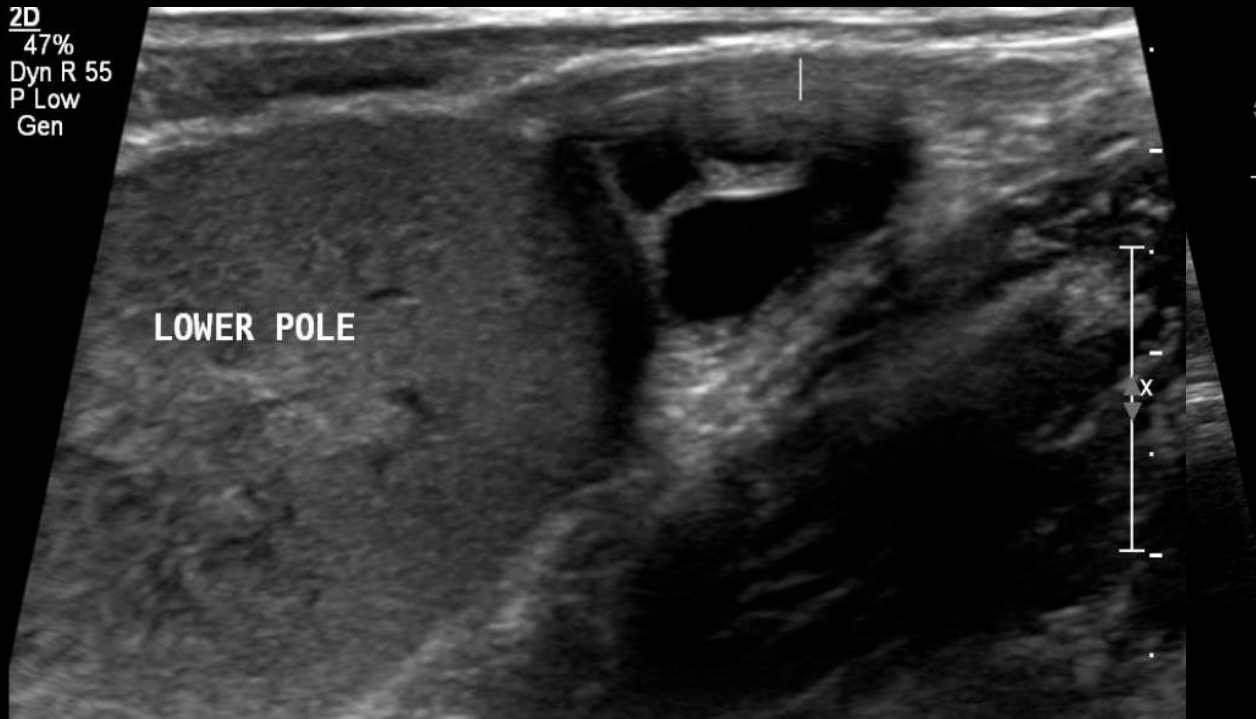
## Post operative Course

- Patient discharged on POD1
- Pathology consistent with dysplastic renal tissue
- Returned to clinic 4 weeks after surgery
- No major events since surgery
- Repeat renal ultrasound performed

# Renal US

2D  
47%  
Dyn R 55  
P Low  
Gen

LOWER POLE





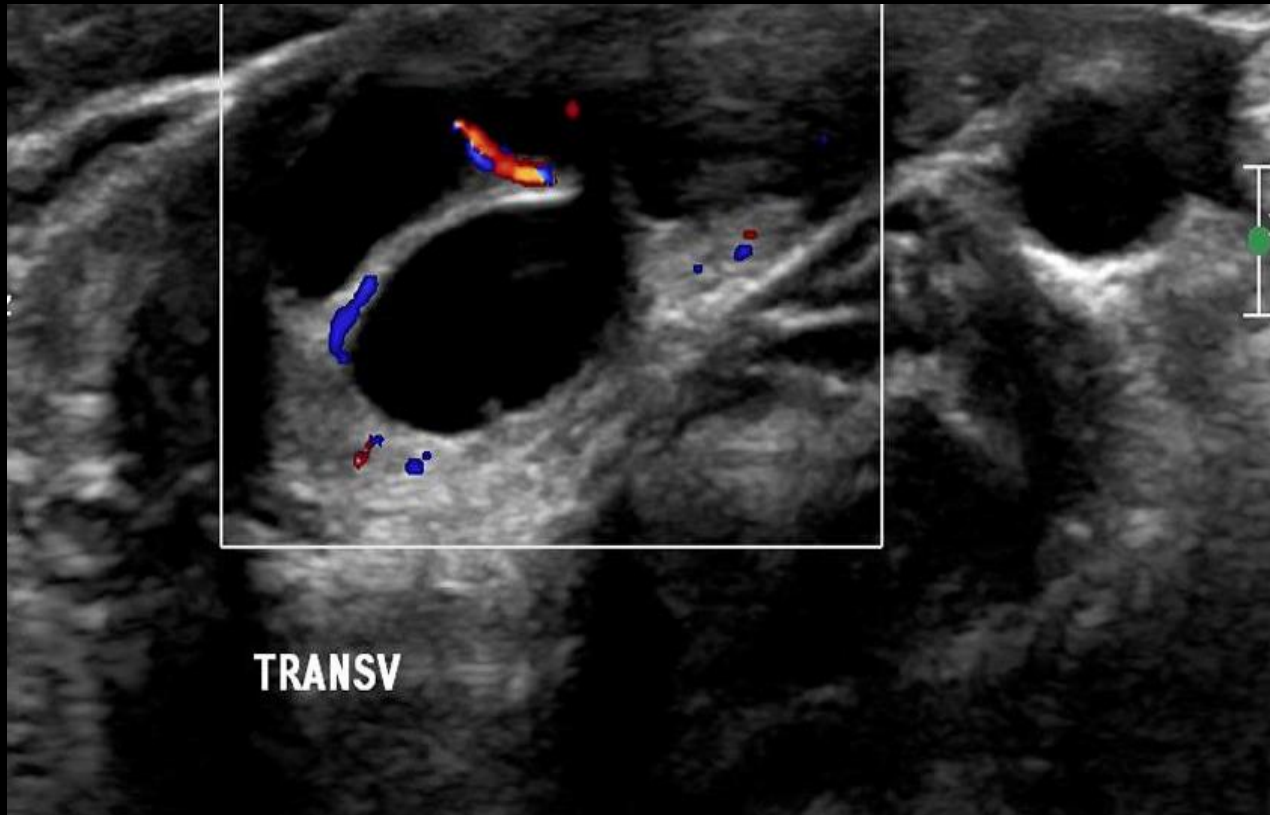
# UVA Children's Hospital



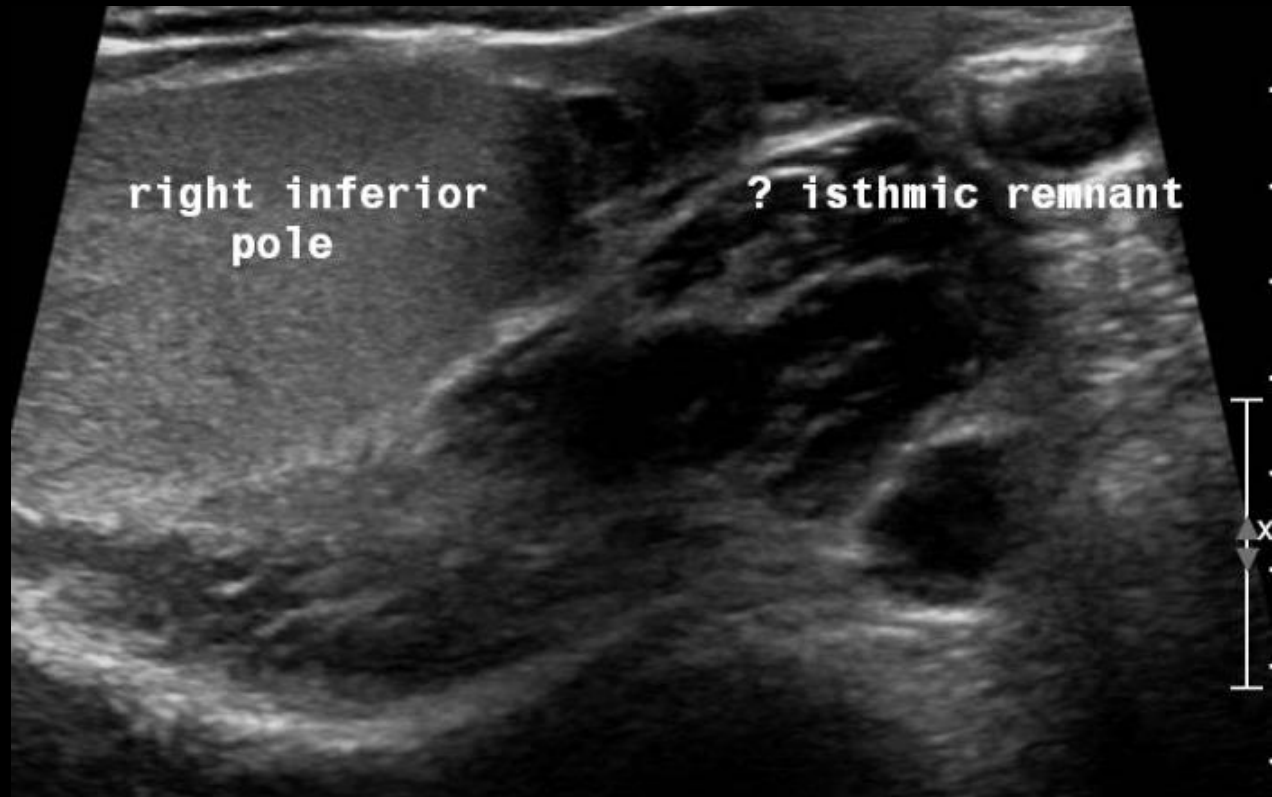
## Follow up Visit

- 10 month follow up with renal ultrasound
- No acute events

# Renal US



# Renal US





## Crossed Fused Ectopic Kidney

- Rare congenital malformation
- Second most common fusion anomaly after horseshoe kidney
- Both kidneys are located on same side and may occur with fusion (90%), without fusion (<10%), or rarely may be solitary or bilateral
- Left kidney three times more likely to migrate to right
- Ureters from each kidney are usually orthotopic
- Renal ectopia is from failure of normal ascent of embryonic kidney



## Crossed Fused Ectopic Kidney

- Symptomatic patients can be associated with range of urological problem
  - Ureteropelvic junction obstruction
  - Vesicoureteric reflux
  - Ureteric strictures
  - Renal dysplasia
- Aberrant arteries can cause hydronephrosis
- Treatment is guided by urological abnormalities that are symptomatic or cause loss of renal function



# UVA Children's Hospital



## References

- Loganathan AK, Bal HS. Crossed fused renal ectopia in children: a review of clinical profile =, surgical challenges, and outcome. *Journal of Pediatric Urology*. 2019 Jun 26. pii: S1477-5131(19)30205-0. doi: 10.1016/j.jpurol.2019.06.019. [Epub ahead of print]
- Hasan Z., Kumar B., et al Aberrant renal vessel causing hydronephrosis in crossed-fused ipsilateral ectopic kidney: a rare case report. *Indian Journal of Surgery*. 2013 Jun; 75(suppl 1): 201-203.
- Shaprio, E. Telegrafi S. Anomalies of the Upper Urinary Tract. A. J. Wein. (Eds) *Campbell-Walsh Urology* (pp. 2975-3005.e6) Philadelphia, PA. Elsevier