

Diagnostic Value of Urine Studies in Children Presenting with Acute Scrotum

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Disclosures

- I have no financial disclosures.

Background

- Acute scrotal pain
 - ✓ common complaint
 - ✓ Possible surgical emergency
- Need for immediate accurate diagnosis versus need to minimize costly or unnecessary investigations and negative surgical explorations
- Very few studies have shown the value of urine studies which were often negative, low diagnostic value, non-evidence based practice
- Ongoing, non-evidence based use of antibiotics for “chemical” epididymitis

Purpose & Methods

Purpose:

- To find the diagnostic utility of urine studies in children with acute scrotum presenting to the Emergency Department.

Methods:

- Retrospective Chart review of pediatric patients presented to ED at a single institution.
- January, 1, 2012 till March 31, 2018

AUA Definition of Positive Urine Studies:

- Pyuria \geq 4-6 WBC/hpf
- Leukocyte esterase \geq 75
- Positive nitrite
- Growth \geq 100,000 CFU in 48 hrs.

Data Collection:

- clinical presentation
- physical examination
- laboratory and imaging studies
- management and discharge diagnoses

Statistical Analysis:

- Chi squared
- Diagnostic accuracy
- Logistic Regression Analysis.

Results

260 patients with acute scrotum

176 had urine analysis

8 (4.4%)
Positive

108 had urine culture (+/- UA)

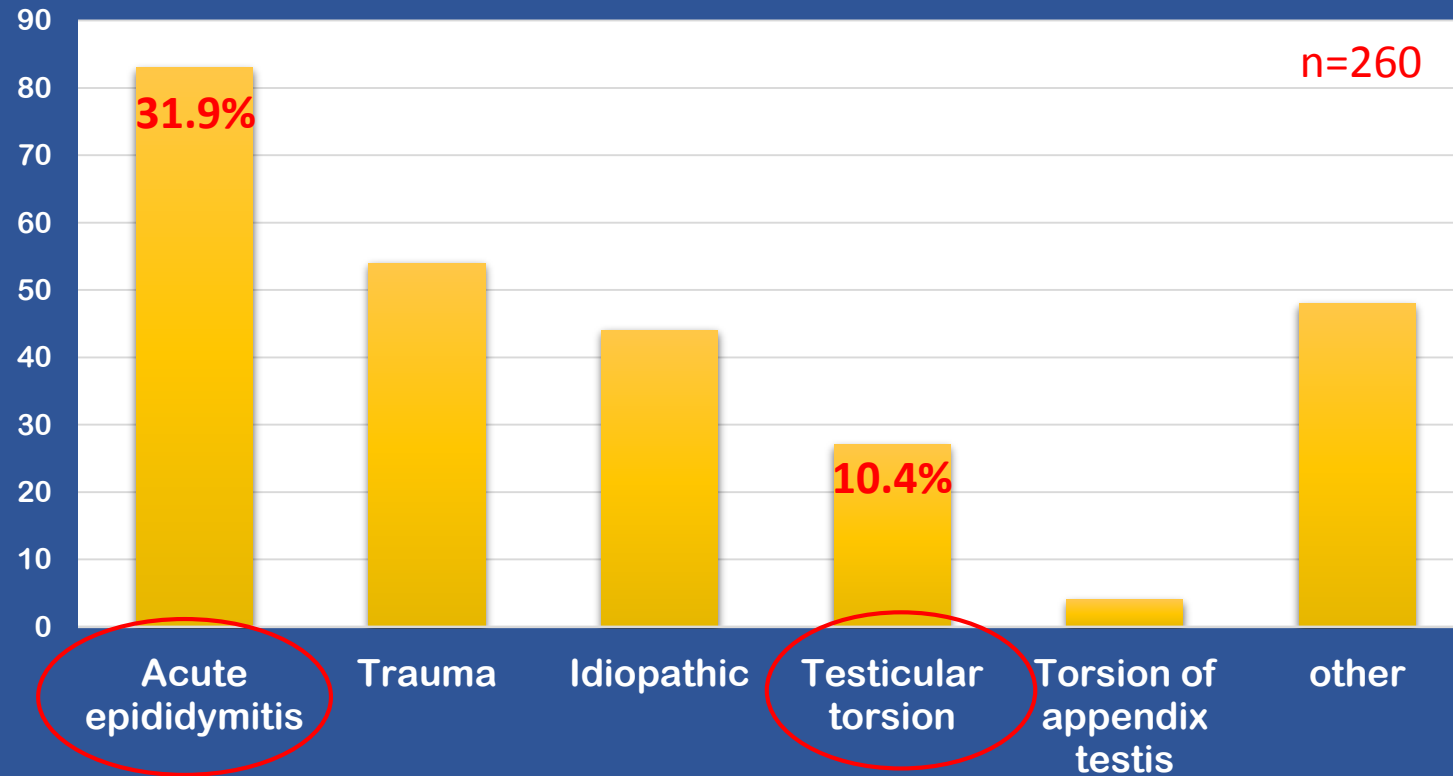
3 (2.8%)
Positive

Compared with Doppler US (gold standard diagnostic for acute scrotum), urine analysis had

- Sensitivity **9.1%**
- Positive Predictive value **16.7%**

Results

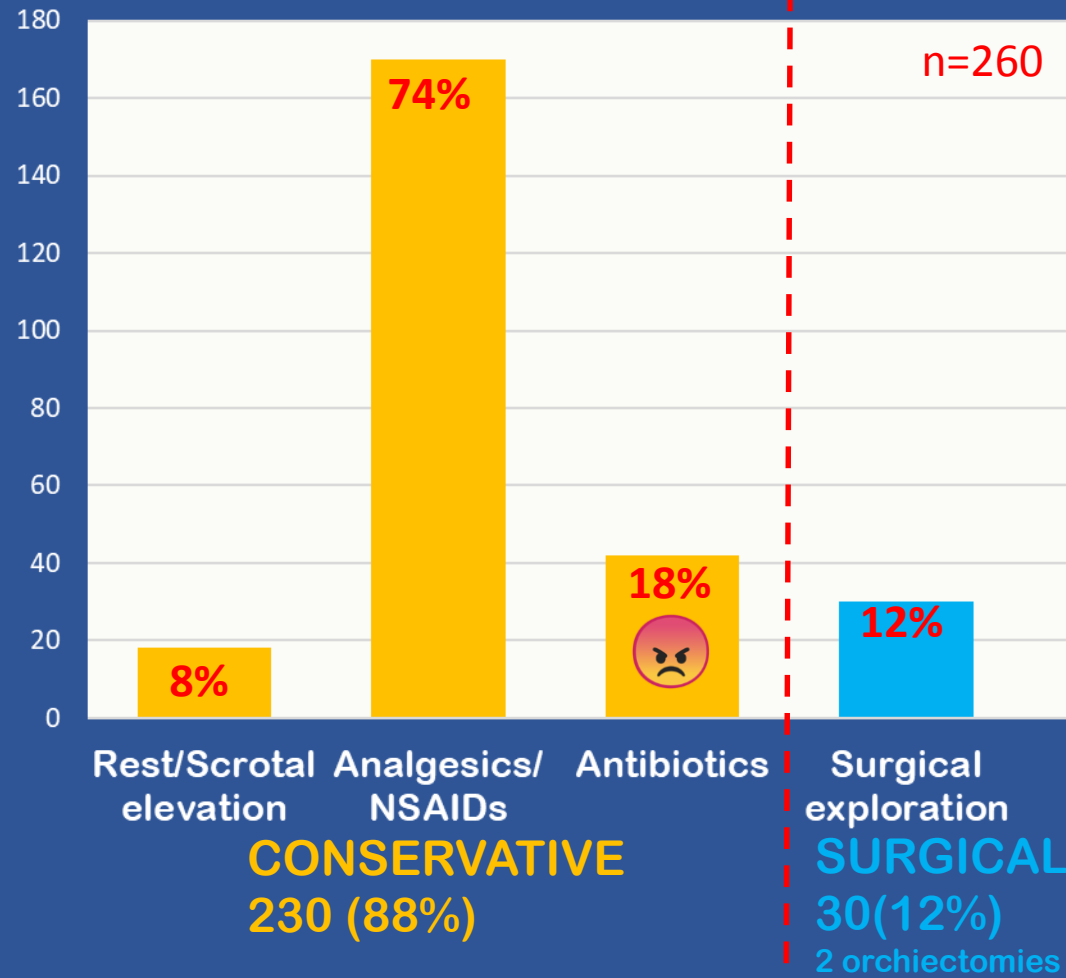
Etiologies of all patients with acute scrotum



Etiologies were not significantly associated with positive urine studies, (P-value <0.05)

Results

Management of all patients with acute scrotum



Limitations

- Retrospective design
- Missing data: prior to Epic launch in institution
- Urine collection method

Conclusions

- Most common diagnosis is acute epididymitis (31.9%)
- Majority of urine studies were negative
- Probably unnecessary use of antibiotics (18%)
- Urine studies in acute scrotum
 - Marginal diagnostic value
 - Additional cost
 - Possible delay in diagnosis

Thank you

