Pyelonephritis Care Guideline

Inclusion Criteria: Previously healthy children 1 month to 5 years of age with an abnormal UA suspicious for infection who:

- require IV fluids
- require IV antibiotics due to severe disease
- are intolerant of oral antibiotics, are failing oral antibiotic treatment
- are not deemed eligible for outpt management (social situation, uncertainty of diagnosis, etc)

Exclusion Criteria: Children < 1 month and > 5 years of age, PICU status, known major genitourinary anomalies, significant co-morbid condition(s) (e.g. sepsis, meningitis, spina bifida)

Assessment: Hydration status, signs of sepsis, CVAT, flank tenderness, urinalysis, urine c&s, blood culture if indicated

Empiric antibiotics:
Ceftriaxone 75mg/kg/day IV once daily (max 2 gm)
Adjust per culture results and response to therapy

Imaging Studies (if not previously done)
Renal ultrasound while inpatient
VCUG generally in 2-3 weeks as outpatient if renal ultrasound suggests high grade VUR or obstructive uropathy

Discharge Criteria

- Clinically improving
- Able to tolerate po
- Outpatient follow up in place
- Families and clinicians to have high index of suspicion and consider recurrent infection with subsequent febrile illness

Recommendations/Considerations

- Timely diagnosis & treatment of urinary tract infections results in a lower incidence of renal scarring, hypertension, & loss of renal function.
- Pyelonephritis can be generally presumed with the presence of fever and a suspicious urinalysis (+/- the presence of upper tract signs such as vomiting, flank pain, costovertebral angle tenderness etc.).
- A well done prospective randomized controlled multi-center study on 1-24 month old children demonstrates that pyelonephritis, in general, can be managed on an outpt basis (Hoberman, et al. See references).
- Sensitivity & specificity of both the UA and culture are dependent on the method of collection & evaluation.
- The distinction between simple urinary tract infection & pyelonephritis can impact the need for imaging in girls.
- A normal late prenatal ultrasound (after 30-32 weeks gestation) done in an experienced center may preclude the need for a renal ultrasound.
- Consider inpatient VCUG for recurrent febrile UTI, concern for posterior urethral valves or non-compliant parent/family/social situation .
- Antibiotics should be continued for at least 10 days.
- The use of antibiotic prophylaxis is considered controversial in the literature.

Patient Education

KidsHealth handout for Urinary Tract Infection – Parent Version

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References
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