

BACKGROUND

- Approx. 8% of girls and 2% of boys will have a symptomatic UTI in childhood
- Commoner in uncircumcised males
- E. coli is the causative organism in 90%
- Accurate diagnosis via urine culture is essential
- 30% of children with UTI have vesicoureteric reflux

PREDISPOSING FACTORS

- Congenital structural abnormalities
- History of broad spectrum antibiotics
- Incomplete bladder voiding or infrequent voiding
- Constipation

OBTAINING URINE

- Clean catch is the best method
- High contamination of bag specimens

PREVENTING RECURRENCE

- Address dysfunctional voiding and constipation
- Encourage adequate fluid intake
- Encourage regular voiding and complete bladder emptying
- Recommend good perineal hygiene

PROPHYLAXIS

- Antibiotic prophylaxis is generally not recommended.
- Surgery is not routinely recommended

REFERENCES

- NICE Guidelines CG54 August 2007: *Urinary tract infection in children: diagnosis, treatment and long-term management.*

HISTORY

- Infants:
 - ✓ Fever
 - ✓ Irritability
 - ✓ Lethargy
 - ✓ Poor feeding
 - ✓ Vomiting
- Children:
 - ✓ Abdominal pain
 - ✓ Dysuria
 - ✓ Urgency & frequency
 - ✓ Reluctance to void
- Malodourous urine and renal angle pain uncommon

EXAMINATION

- Often normal
- Centiles & BP
- Examine lower back
- Check for renal angle tenderness & renal masses
- Out rule constipation

INVESTIGATIONS

- Urinalysis
- Urine microscopy, culture and sensitivity
- Renal ultrasound
- MCUG if under 6 months
- DMSA to detect scarring

TREATMENT

- If under 6 months or signs of pyelonephritis, will require admission for IV antibiotics
- Lower UTI: trimethoprim OR nitrofurantoin OR cefalexin (3 days)
- Upper UTI: co-amoxiclav (7-10 days)
- It is not recommended to send a repeat urine test for "test of cure" if child is asymptomatic.

TAKE HOME MESSAGES

- UTI to be considered in all infants with fever
- Clean catch is the best method of collection
- If under 6 months: Ultrasound and MCUG
- Renal scars in 10% of UTIs

REFERRAL

- ✓ Infants < 3 months
- ✓ Pyelonephritis or renal abscess
- ✓ Obstruction of urinary tract
- ✓ Congenital renal abnormalities
- ✓ Significant vesicoureteric reflux
- ✓ Renal/bladder stones
- ✓ Bowel/bladder dysfunction
- ✓ High risk of serious UTI

IMAGING

- Renal ultrasound performed during the acute infection or 6 weeks later depending on age of patient, response to treatment and whether or not they have atypical or recurrent UTI (See NICE Guidelines)
- MCUG in infants < 6 months with atypical or recurrent UTI performed as soon as possible after acute infection.
- recent international guidelines do **not** recommend MCUG after first episode of UTI in infants (only recommended after second episode or if abnormalities found on renal ultrasound)
- DMSA in children with atypical or recurrent UTI performed 4-6 months after acute infection

RECURRENT UTI

- Two or more episodes of upper UTI
- Three or more episodes of lower UTI

ATYPICAL UTI

- Seriously ill
- Poor urine flow
- Abdominal or bladder mass
- Raised creatinine
- Septicaemia
- Failure to respond to treatment with suitable antibiotics within 48 hours
- Infection with non-E. coli organisms