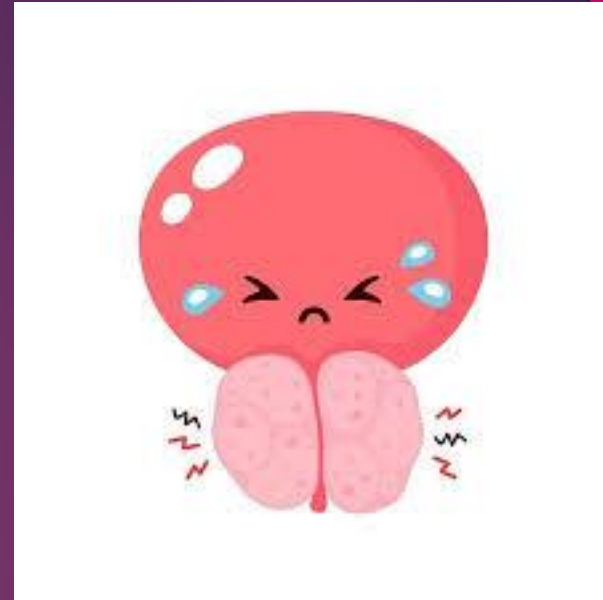


Urinary Tract Infection in Childhood



DR SUSIE MINSON

Overview

- ▶ Background
- ▶ Clinical presentation
- ▶ Diagnosis
- ▶ Red flags / worrying features
- ▶ Treatment
- ▶ Further workup
- ▶ Antibiotic prophylaxis



Background

- ▶ Common in children
- ▶ 3% of girls and 1% of boys by age 11
- ▶ May be the first presentation of renal tract abnormality
- ▶ Infection can lead to damage to the growing kidney leading to renal failure in adulthood

Clinical Presentation

- ▶ Lower tract – frequency, dysuria, crying, incontinence - non-specific in non-verbal / non toilet trained child
- ▶ Upper tract – fever, vomiting, loin pain, rigors
- ▶ Sepsis



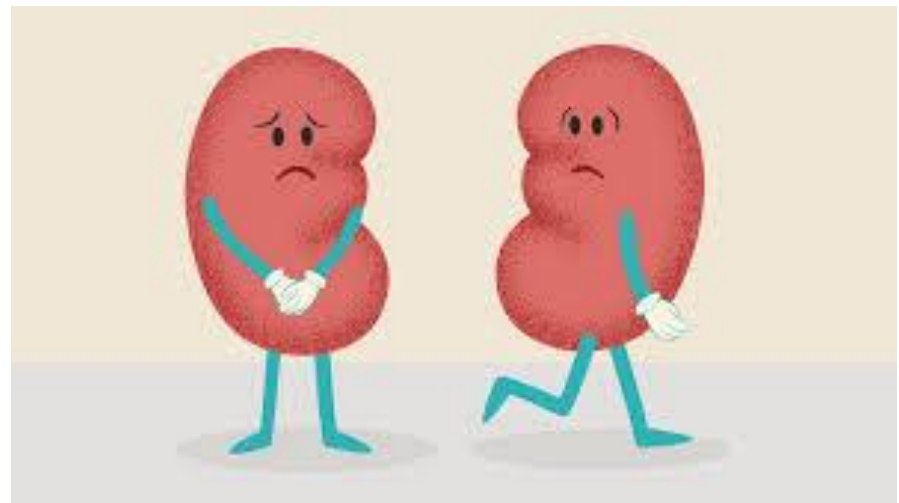
Diagnosis

- ▶ Urine dipstick from clean catch urine (nitrites and leucocytes high specificity but nitrites unusual in infants <3/12)
- ▶ May need in/out catheter or SPA in infants
- ▶ Essential to send urine for culture (organism will guide further investigation)



Red flags on history and examination

- ▶ Previous UTI
- ▶ Poor urinary flow
- ▶ Significant constipation
- ▶ Spinal lesion
- ▶ Abdominal mass
- ▶ Poor growth / FTT
- ▶ Hypertension



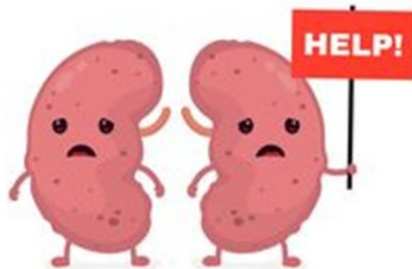
Treatment

- ▶ Most children can be treated with oral antibiotics
- ▶ Encourage good fluid intake and regular voiding
- ▶ All children <3/12 should have IV
- ▶ Low threshold for IV treatment if upper tract signs, not tolerating oral, any history of underlying renal disease.



Further investigations

- ▶ Most children with a single UTI are at low risk of underlying pathology or renal damage
- ▶ Investigation should be targeted to the highest risk children
- ▶ Youngest children, those with atypical organisms and those with recurrent UTI are most at risk.



Imaging in UTI

- ▶ Ultrasound – structure and size
- ▶ DMSA - Function and scarring
- ▶ MCUG – dynamic scan looking at urine flow for reflux or obstruction



Investigations

- ▶ UTI <3/12
 - ▶ USS, DMSA, MCUG
- ▶ 3/12-6/12
 - ▶ USS
 - ▶ MCUG and DMSA if atypical or recurrent or if USS abnormal
- ▶ 6/12 – 3 yrs
 - ▶ USS only if atypical
 - ▶ DMSA and USS if recurrent
- ▶ Over 3 yrs
 - ▶ USS and DMSA if recurrent infections

Antibiotic Prophylaxis

- ▶ Aim to protect kidneys during workup and or while awaiting definitive treatment
- ▶ Started based on antenatal imaging or post natal infection
- ▶ Usually trimethoprim / nitrofurantoin but guided by MSU results
- ▶ In infants needs frequent dose adjustment for weight

Summary

- ▶ UTI in children is common
- ▶ May be presentation of renal tract abnormality
- ▶ Infection in the growing kidney may cause long term renal damage
- ▶ Investigations depend on age of child and type of infection

