

UTI or ABU



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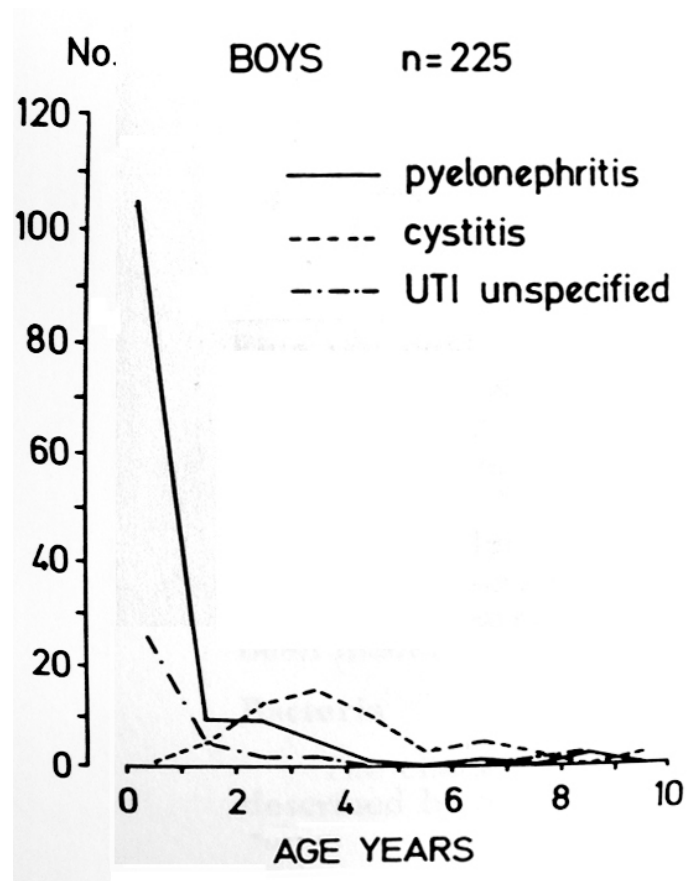
Why ask such a stupid question?

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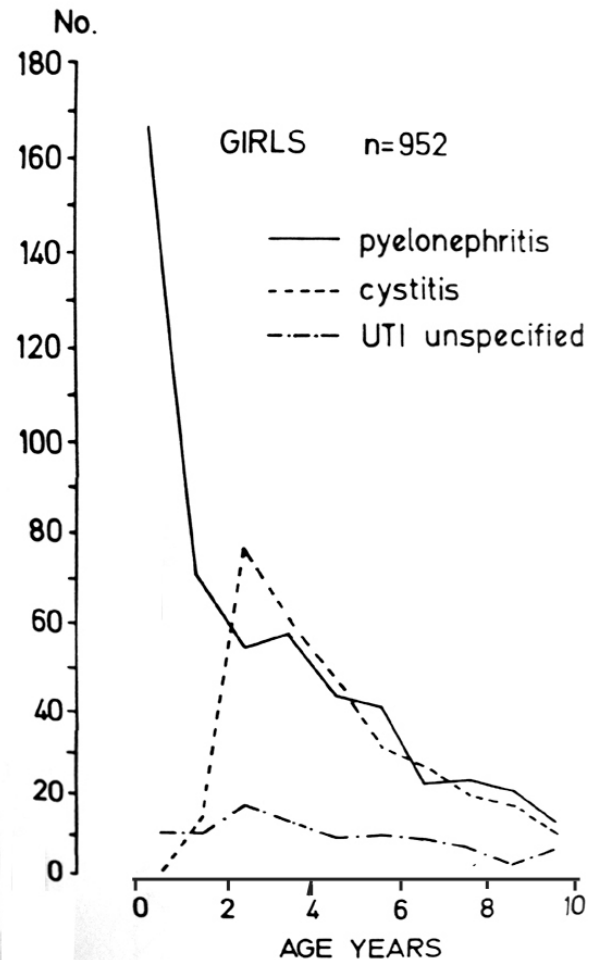
Urinary Tract Infections

- Pyelonephritis – febrile UTI
- Cystitis – afebrile UTI
- Asymptomatic Bacteriuria (ABU)

Occurrence - boys



Occurrence - girls



Asymptomatic Bacteriuria (ABU)

- Girls
- Infants of both sexes
- Children with urinary tract malformations

ABU in girls

- Bladder dysfunction
- Voiding postponers
- Wetting
- Sometimes some symptoms

ABU in girls (2)

- Avirulent bacteria
- Long persistence of the bacteria - medium 5 years
- Does not cause any long term harm to the kidneys

ABU in infants

- 3000 children with screening urine cultures at three times during first year of life.
- Any positive culture confirmed with a bladder puncture
 - Wettergren et al

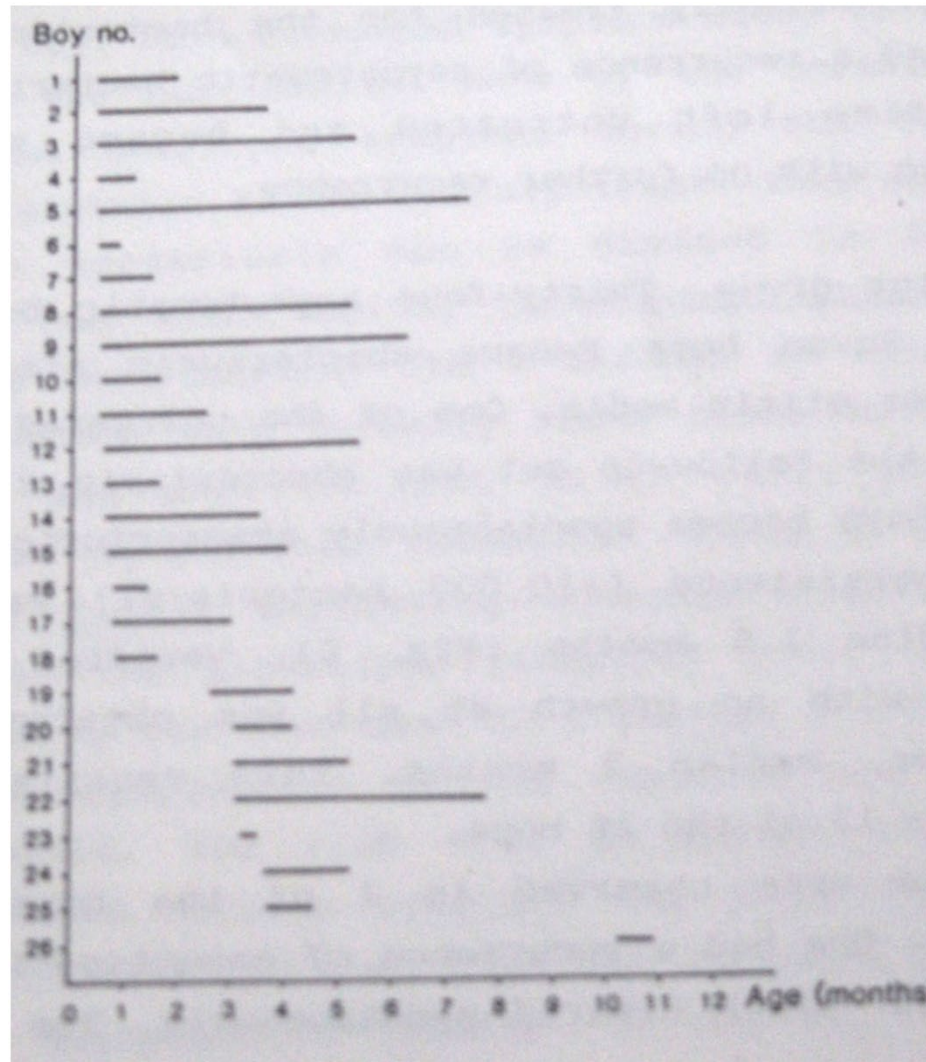
Occurrence of infantile ABU

	Screening bacteriuria	Pyelonephritis
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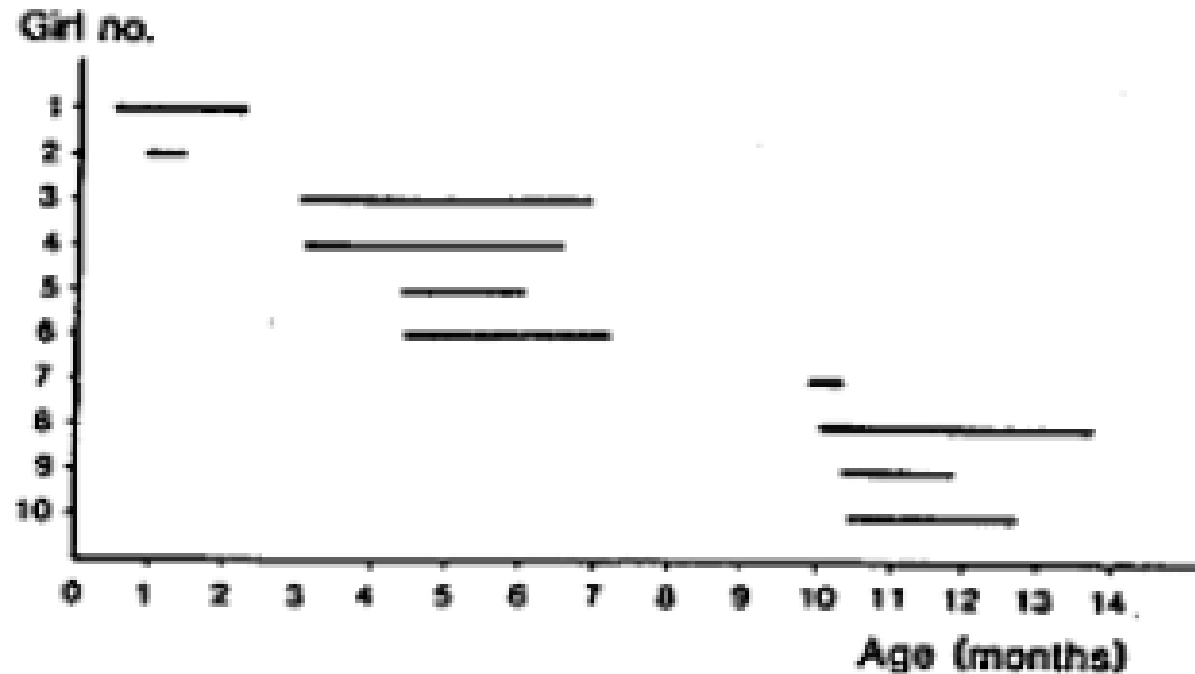
Boys	2.5%	1.2%
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Girls	0.9%	1.1%
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Persistence of infantile ABU - boys



Persistence of infantile ABU - girls



Children with renal malformations



- Most children with significant renal malformations suffer from bladder emptying problems
- They do often have bacteriuria
- Often without symptoms
- Sometimes with significant symptoms and kidney involvement

Where is the problem?

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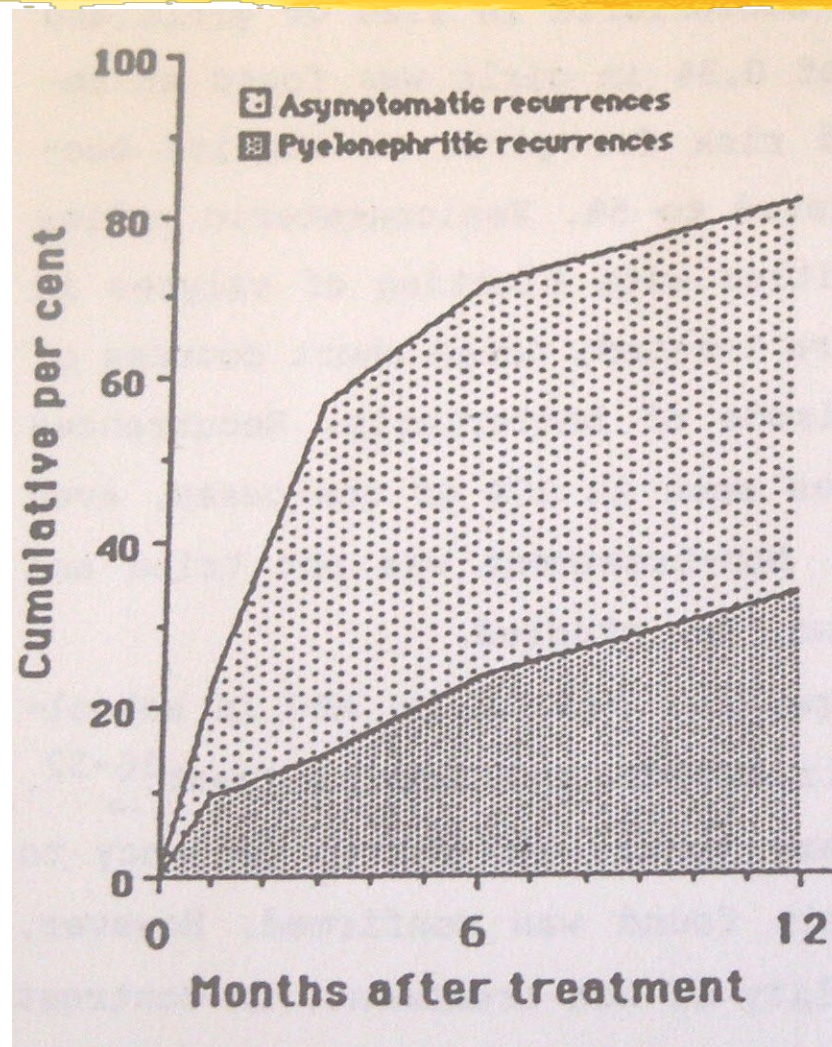
5 year old girl

- Many recurrent attacks of abdominal pain
- Diagnosed with many UTIs by the GP
- Urine culture results not available
- Sometimes pain when weeing?
- Wetting herself
- Antibiotic treatment has not really changed her symptoms

5 year old girl (2)

- Urine culture positive
- Treatment made the bacteria disappear
- No change in symptoms
- But they reoccured quickly.

Treatment results



5 year old girl (3)

- What is this? UTI or ABU?
- What should you do?

4 month old boy

- High temperature
- Not feeding well
- Red throat but nothing else on examination
- Urine dipstick 2+ protein 1+ blood, 3+ ketones, 2+ white cells

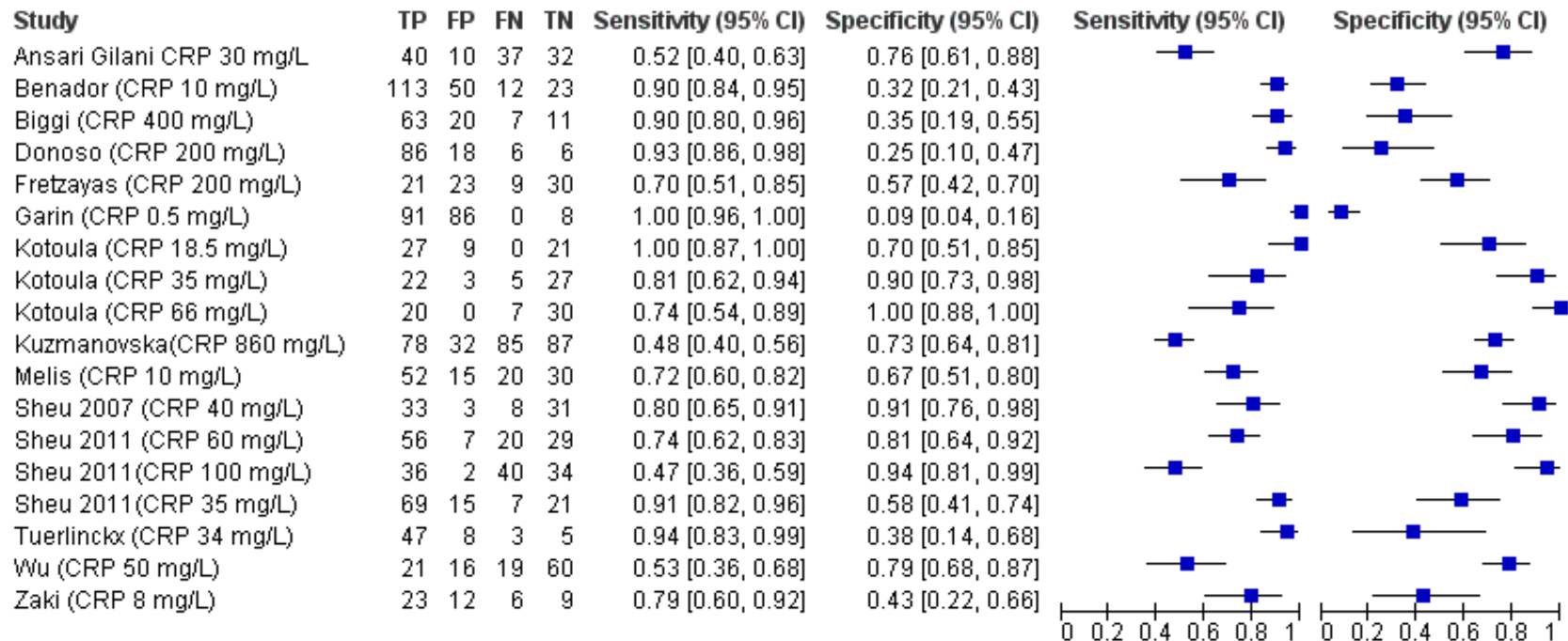
4 month old boy (2)

- Urine culture was sent.
- It showed E.coli 10^6 CFU/mL
- What is this? ABU or UTI?
- What do you do??

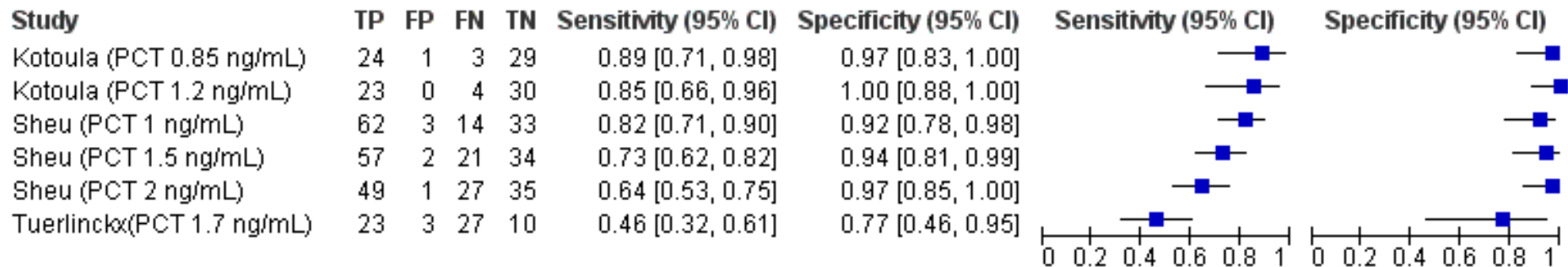
Urine dipsticks

- Nitrite test
 - Supports the bacteriuria
- Leucocyteesterase
 - Some authors believe that ABU have fewer white cells in the urine

CRP in the diagnosis of acute pyelonephritis

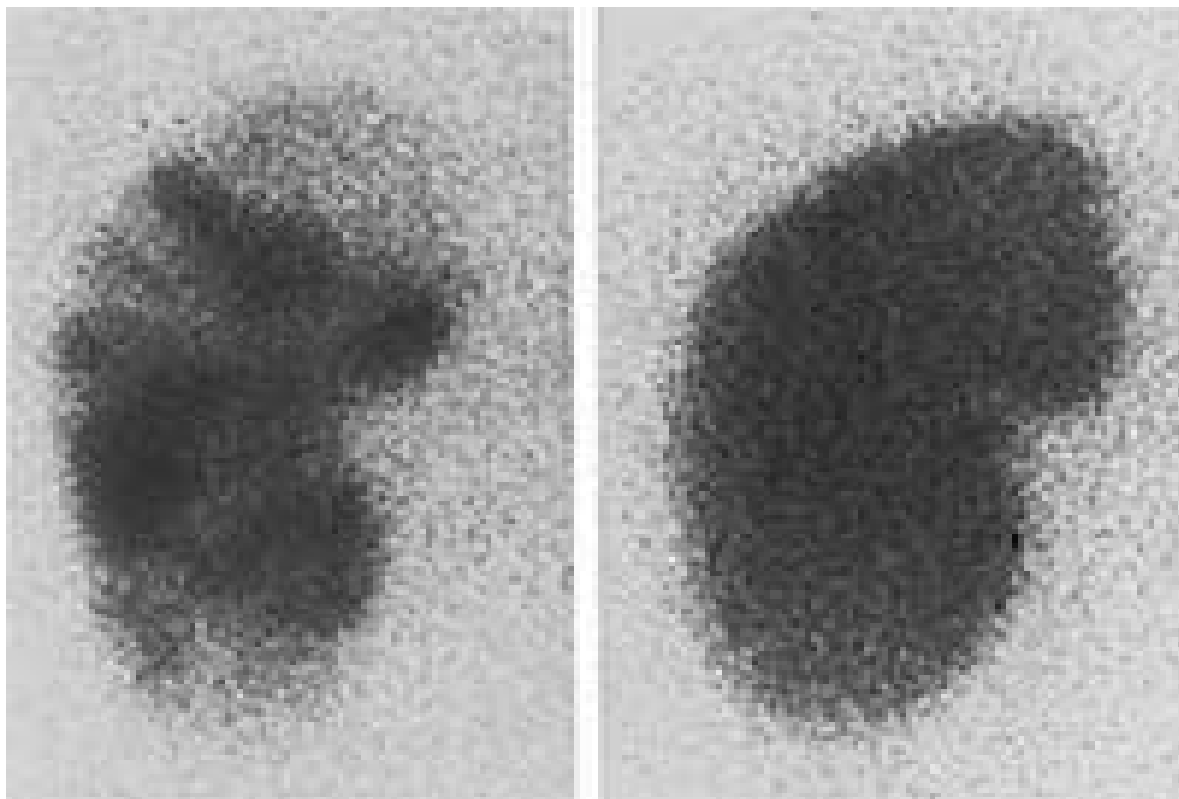


Procalcitonin in the diagnosis of acute pyelonephritis



Cochrane review 2015

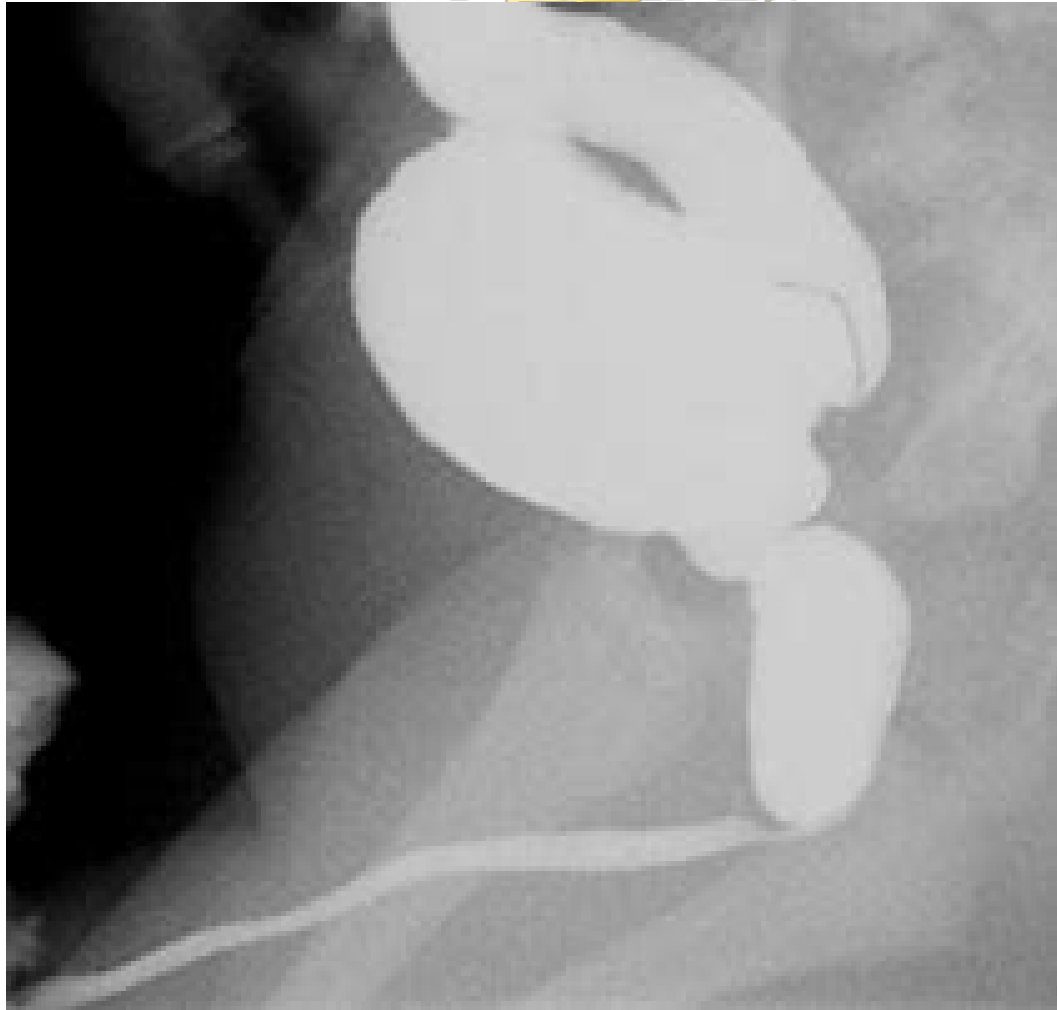
DMSA



3 year old boy with posterior urethral valves



- Small bladder
- Mostly bacteriuria despite prophylactic antibiotics



3 year old boy with posterior urethral valves (2)



- High temperature but no clear signs of infectious focus
- What is this? ABU or UTI?
- What to do??

Does it matter - infant



- Over diagnosis of a febrile UTI can lead to
 - Unnecessary treatment
 - Unnecessary imaging and follow-up
 - Problems in scientific studies

Does it matter - young girl

- Treatment of a young girl with UTI can eradicate bacteria but leave room for more virulent bacteria
- And thus give her a truly symptomatic infection

Does it matter – boy with PUV

- Repeated treatments of ABU in a boy with urethral valves can select really difficult to treat bacteria and finally make him impossible to treat

Summary

- The question on when to think ABU and not to treat or UTI and to treat is a very relevant one