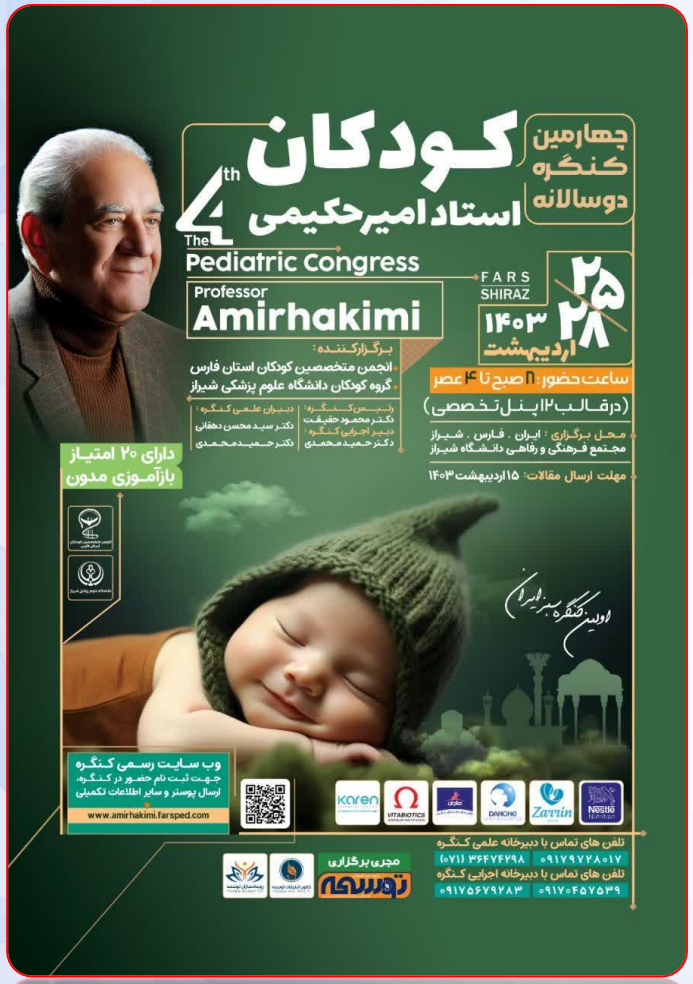

Pitfalls in some laboratory tests in pediatric emergency ward

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Case 1

- A 6 months old female infant was admitted due to fever and irritability for 4 days.

U/A: 2+ protein, WBC=8-10, RBC=6-8 and U/C with bag was sent and ceftriaxone started.

After 24 hr. U/C>100000 colonies mixed growth.

KUB Sono: left sided increased renal echo and caliectasis.

What is the plan?

Discussion for Case 1

- We have to complete the course of treatment as UTI.
- Follow up U/C during and after treatment.
- DMSA scan.
- ? RNC later on.

Clinical Points in Case 1

- Significant proteinuria in U/A can be seen in UTI.
- U/C with bag is not reliable, unless negative.
- KUB sono is helpful in acute pyelonephritis.
- Febrile UTI must be considered as pyelonephritis.

Case 2

- A 24 months old girl was admitted with fever and diarrhea for 10 days.
- U/A: 6-8 WBC, moderate bacteria.
- ESR=37, CRP=2+
- The first dose of antibiotic was started before U/C sampling.
- U/C was negative after 24 hours.

Clinical Points in Case 2

- In any patient with fever and diarrhea UTI must be considered.
- Definite diagnosis of UTI is by positive U/C.
- High ESR and positive CRP in UTI indicates pyelonephritis.
- Even one dose of PO or IV antibiotic can change the result of U/C.
- U/C result is helpful after 24 hours.

Case 3

- A 24 months old girl with documented febrile UTI one year ago, referred with fever and irritability for 24 hours and U/A showed 8-10 WBC.
- After urine sample for culture cefixime was started and after 24 hours it was discontinued due to negative U/C. Fever was discontinued 24 hours later.

Clinical points in Case 3

- U/C is recommended if fever appears in any patient with previous documented UTI.
- Although pyuria is a common finding in UTI, other causes of pyuria(sterile) are:
- Fever, stone, nephrocalcinosis, PCKD, TIN, vasculitis, recent treated UTI, drugs,…

Case 4

- A 16 months old infant with fever and cough for 2 days.
- U/A: Normal, ESR=55 ,CRP=64, WBC=3100
- Fever was discontinued after 24 hours without antibiotic therapy.

Clinical Points in Case 4

- Although ESR and CRP can be very helpful in different bacterial infections, these tests can be misleading or positive in other conditions:
- Inflammatory diseases, vasculitis, malignant diseases and even viral infections(as in this case).
- So these tests must only be used in the selected patients, not as routine tests.

Case 5

- A 13 months old infant presented with fever and convulsion. U/A: nitrite 2+, moderate bacteria. ESR=17, CRP=2, U/C>100000 colonies of E.Coli, resistant to ceftriaxone.
- LP was failed.
- Sono or U/C during treatment was not done.
- Ceftriaxone was used for 5 days, fever discontinued.

Points in Case 5

- UTI is a common bacterial cause of febrile convulsion.
- Positive nitrite has the most correlation with UTI(specificity >99%).
- Normal ESR or CRP does not rule out pyelonephritis or meningitis.
- U/C must be repeated during treatment in such patient.
- KUB Sonography is necessary.
- Parenteral antibiotic, at least=3-5 days, then PO.