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The accuracy of Interleukin-6 urine compared to urine culture to diagnose pyelonephritis in neonates

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Background: Pyelonephritis is an infection that is common to all children in all age groups, including the new born period. The diagnosis of urinary tract infection is established with certainty by urine culture. Additional investigations can be done to help confirm the diagnosis, such as Interleukin-6 urine (IL-6). Increased number of IL-6 urine is useful to help quickly checks the occurrence of pyelonephritis.

Objective: To assess the sensitivity and specificity of IL-6 urine examination for detecting pyelonephritis in neonates compared with urine culture.

Results: During study period, 45 neonates with positive urine cultures and 15 with negative cultures. Mean of ages was 8.35 days (SD 6.8), Mean birth weight was 2530.50

grams (SD 712.7), section caesarean delivery was 27 (45%), vaginam delivery was 33 (55%). Klebsiella pneumonia was the most common cause (46.6%), Streptococcus agalactie (26.6%) and Chryseomonasluteola (10%). Interleukin-6 Urine level >5.584 pg/ml considered as positive and ≤5.584 pg/ml considered negative. Sensitivity was 53.3%, Specitifiy was 53.3%, Positive predictive value was 69.5%, Negative predictive value was 36.3%, Likelihood ratio positive was 1.14 and Likelihood ratio negative was 0.87 in the examination of IL-6 urine compared to urine culture.

Conclusion: IL-6 urine examination has a low accuracy to diagnose pyelonephritis in the neonates

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