

CAN WE RELY ON PROCALCITONIN IN THE DIAGNOSIS OF LATE ONSET NEONATAL SEPSIS?

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Aims:

1. To explore the usefulness of Procalcitonin(PCT) assay in the diagnosis of late onset neonatal sepsis(LONS)
2. To compare the diagnostic usefulness of Procalcitonin with C - reactive protein(CRP)

Methods: Infants ≥ 48 hours old and being investigated for LONS were recruited after informed consent. The sepsis episodes were categorised into 3 groups: *True positive*, *True negative* and *Possible sepsis* on the basis of clinical symptoms, results from blood culture or other sterile body fluids and raised CRP or thrombocytopenia.

Results: A total of 219 sepsis episodes in 121 infants were evaluated. There were 79(36%) true positive, 68(31%) possible sepsis and 71(33%) true negative episodes of sepsis. The sensitivity and specificity were calculated for true positive versus true negative episodes; and the cut-off used for CRP and procalcitonin was 10 and 0.5 respectively. The sensitivity of procalcitonin and CRP was 68% and 56% respectively whereas the specificity was 60% and 85%.

	Sensitivity (%)	Specificity (%)	Positive predictive value (%)	Negative predictive value (%)
Procalcitonin (overall)	68(56-78)	60(47-72)	67(56-77)	61(48-73)
CRP (overall)	56(44-67)	85(74-92)	81(69-91)	61(50-71)
Procalcitonin (CNS excluded)	92(73-99)	60(47-72)	46(31-61)	95(83-99)
CRP (Staphylococcus epidermidis [CNS] excluded)	58(37-78)	85(74-92)	58(37-78)	85(74-92)

[Diagnostic tests: Procalcitonin vs CRP in LONS]

Conclusion: Procalcitonin is a useful marker of LONS. In this study, PCT is more sensitive but less specific than CRP in the diagnosis of late onset neonatal sepsis. PCT could be used as a useful adjuvant to CRP in the evaluation of late onset neonatal sepsis.