

Early diagnostic value of serum sTREM-1 to Pertussis

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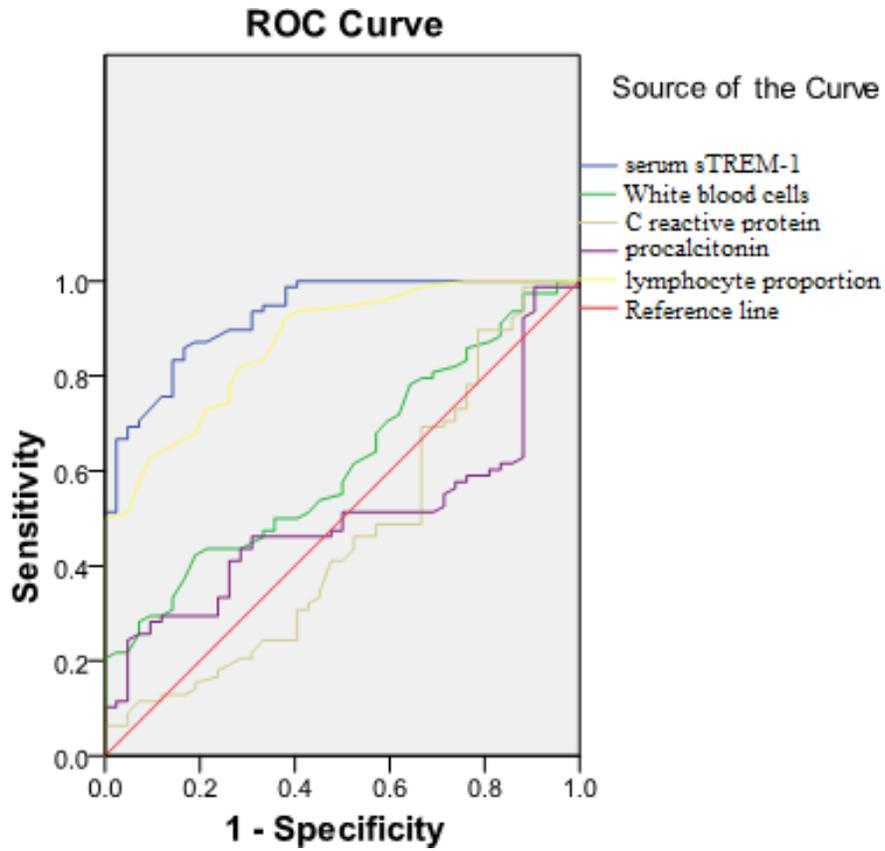
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Abstract

Objectives: The early diagnosis of pertussis is a public health issue, and there is a lack of sufficient lab testing. sTREM-1 has been found to be a potential specific marker for infectious diseases. This study aimed to evaluate the early diagnostic value of serum sTREM-1 to pertussis in infants. **Methods:** In patients with suspected pertussis, various potential indicators were evaluated, including serum sTREM-1, white blood cells, serum C reactive protein, and serum procalcitonin. Multiplex PCR of nasopharyngeal secretion was employed to identify *B. pertussis*, and bacterial cultures and viral antigen detection were performed. Cases in which the pathogen and various indicators were present were considered as pertussis. Cases were divided into two groups, the pertussis and non-pertussis groups, and then the indicator results were analyzed. **Results:** Seventy-eight infants with pertussis and 42 infants without pertussis were analyzed; there were no significant differences in terms of sex, age, onset time, feeding patterns, and location of residence. The difference in serum sTREM-1 levels between the pertussis group (238.99 ± 71.95 pg/ml) and non-pertussis group (104.04 ± 49.38 pg/ml) was statistically significant ($t = 10.8482$, $P < 0.05$). Serum sTREM-1 had an AUC of 0.930, cutoff value of 142.5 pg/ml, sensitivity of 85.9%, and specificity of 83.3% (95% CI: 0.886–0.973, $P < 0.05$). Lymphocyte proportion had an AUC of 0.871; however, white blood cells, C reactive protein, and procalcitonin had AUC values below 0.7. **Conclusion:** The detection of serum sTREM-1 may be useful for the early diagnosis of pertussis.

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