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Factors Relation to Death or Survival in Young Infants with Pertussis

About 10 years ago, C. Paddock and I and other colleagues studied the pathological findings in 15 young infants whose deaths were caused by *B. pertussis* infection. The resulting hypothesis at the time was that refractory pulmonary hypertension had occurred as a result of aggregates of mixed leukocytes in small blood vessels in the lungs. With my associates at the California Department of Public Health and a number of pediatric infectious diseases specialists in California, we have done 4 studies relating to risk factors for death and pulmonary hypertension in young infants with pertussis. In the first study risk factors were (1) high and rapidly rising WBC counts; (2) high and rapidly rising pulse and respiratory rates and; (3) pneumonia with early onset. The second study was a case-control study involving 53 deaths and 183 controls. This study confirmed the findings in the previous study and in addition noted numerous other possible risk factors. Fatal cases had significantly lower birthweight, younger gestational age, and younger age at time of cough onset. Fatal cases were less likely to have received macrolide antibiotics and more likely to have received steroids and/or nitric oxide therapy. In a third study, we evaluated 10 young infants who received exchange blood transfusion therapy; there were 5 survivors and 5 deaths. None of the survivors had shock/hypotension or organ failure whereas the death cases all had shock/hypertension and 3 had organ failure. The final study is a study of exchange transfusion or non-exchange transfusion in severe infant pertussis cases. Analysis of data from this study suggests that conventional treatments for pulmonary hypertension in pertussis may be harmful.

Biography

James D. Cherry MD, MSC has been a pediatric infectious diseases specialist for 53 years. He is a Distinguished Research Professor at the David Geffen School of Medicine at University of California, Los Angeles. Professor Cherry has published 304 research papers, 108 editorials/commentaries and 282 book chapters. He has given 238 presentations at national and international conferences. The majority of these papers and talks have related to vaccines and vaccine preventable diseases. Professor Cherry is the senior editor of Feigin and Cherry's "Textbook of Pediatric Infectious Diseases" which is now in its 7th edition.he was Chief of the Division of Pediatric Infectious Diseases for 27 years. He has received numerous awards, including the Distinguished Physician Award from the Pediatric Infectious Diseases Society in 2003 and the UCLA Medical Alumni Associations' Medical Science award in 2005.

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