Clinical trials show rotavirus vaccine to be effective in newborns

A rotavirus vaccine candidate, led by the Murdoch Childrens Research Institute, has been found to provide a strong immune response in over 90 per cent of babies that received a course of the vaccine during clinical trials.

As Rotavirus is the most common cause of severe diarrhoea among infants and young children worldwide, the RV3’ Rotavirus Vaccine candidate has the potential to save over half a million lives each year, mainly in developing countries.

The clinical trial, conducted in collaboration with the University of Otago in New Zealand, involved 95 babies receiving a course of three doses of the vaccine, with the first dose within the first days following birth. The trial represents the first time a rotavirus vaccine has been given to newborns.

The results were recently published in *The Lancet Infectious Diseases*.

Lead researcher, Professor Julie Bines of Murdoch Childrens, the University of Melbourne and The Royal Children’s Hospital said the results provide confidence that this vaccine will be effective in preventing severe rotavirus gastroenteritis in very young babies.

“Not only have we shown that this novel vaccine is well tolerated in newborns but it produces a strong immune response, suggesting early protection from severe rotavirus gastroenteritis. The advantage of this vaccine over the currently available vaccines is the fact that it is administered close to birth, which is the earliest opportunity to provide protection to babies from severe rotavirus gastroenteritis.”

Researchers developed the candidate from a unique strain of rotavirus that was found naturally in healthy asymptomatic newborns, who were then protected from severe rotavirus diarrhea in the first three years of life.

The research and development of the ‘RV3’ vaccine is being led and conducted by academic institutions rather than the pharmaceutical industry with the intention to partner with developing country manufacturers so that the vaccine will ultimately be affordable for developing countries, where they are needed most.

“We believe this candidate will help improve the effectiveness, feasibility and safety of vaccines in regions of the world with high mortality from rotavirus, such as Africa,” said Professor Bines.

The vaccine is the culmination of over four decades of research in Australia by the Murdoch Childrens Research Institute, The Royal Children's Hospital Melbourne and the University of Melbourne, following the discovery of rotavirus by a team led by Professor Ruth Bishop in 1973.

Clinical trials of ‘RV3’ continue in Indonesia. It is hoped the vaccine will be available for use in 2019.