Study of the immune disruption caused by measles and its association with clinical progress in Dhaka, Bangladesh

Fact Sheet

Project Information

Grant agreement ID: TS3*940302

Project closed

Start date
1 January 1995

End date
31 December 1997

Funded under
Specific research and technological development programme (EEC) in the field of the life sciences and technologies for developing countries, 1990-1994

Total cost
No data

EU contribution
No data

Coordinated by
London School of Hygiene and Tropical Medicine
United Kingdom

Objective

This study will investigate different hypotheses for the mechanisms underlying

excess delayed mortality after measles or high titre measles Vaccines. Morbidity will be monitored after mild measles (among children recruited through community-based surveillance) or complicated measles (recruited at hospital), and compared to controls (a cohort of healthy children and a cohort of children hospitalised with other illnesses). 110 children will be recruited in each group, and will be examined twice weekly in the first 6 weeks then weekly until 8 months after recruitment. To investigate the hypothesis that measles virus causes a prolonged bias to a type 2 helper T cell response (which is predicted to increase the antibody response to infectious agents), the response to the hepatitis B vaccine series commenced 6 weeks after recruitment will be compared between cases and controls. In each analysis, age, sex, socioeconomic status, nutritional status and micronutrient levels will be assessed as possible confounders.
On a subsample of subjects aged 6-11 months, (n=25 per group), the study will measure the lymphoproliferative response to stimulation with measles virus and measles virus purified membrane proteins, cytokine profiles, and changes in surface molecules, particularly those involved in the MV receptor complex, on sub-populations of peripheral blood mononuclear cells (PBMCS). Two groups of measles vaccines (n=25 per group) will also be studied, one group receiving two doses of standard titre measles vaccines at ages 6 and 9 months, the other a single dose at 9 months, to allow comparison of the effects of wild versus vaccine virus on cellular function. The presence of measles virus in PBMC samples and subpopulations in children with acute measles will be compared to Vaccinees at different time points following exposure. These studies will help to understand the basis for immune suppression after measles, to determine the extent of immunosuppression after measles vaccination, and to raise hypotheses for the mechanism of differences in persistence of immunity after measles or measles vaccination. This information will be invaluable in the development and evaluation of novel measles vaccines.

Fields of science (EuroSciVoc)

social sciences > sociology > demography > **mortality**

natural sciences > biological sciences > microbiology > **virology**

medical and health sciences > health sciences > **infectious diseases**

natural sciences > biological sciences > biochemistry > biomolecules > **proteins**

medical and health sciences > basic medicine > pharmacology and pharmacy > pharmaceutical drugs > **vaccines**

Programme(s)

FP3-STD 3 - Specific research and technological development programme (EEC) in the field of the life sciences and technologies for developing countries, 1990-1994

Topic(s)

Data not available

Call for proposal

Data not available

Funding Scheme

CSC - Cost-sharing contracts

Coordinator

London School of Hygiene and Tropical Medicine

EU contribution

No data

Total cost

No data

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Participants (2)

Bayerische Julius-Maximilians-Universität Würzburg

Germany

EU contribution

No data

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Total cost

No data

International Centre for Diarrhoeal Disease Research

Bangladesh

EU contribution

No data

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Total cost

No data

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