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Persistent Thrombocytopenia after Dengue Hemorrhagic Fever

We report two children with persistent thrombocytopenia after Dengue hemorrhagic fever (DHF). On literature review we could locate only one similar case(1).

Case 1

A 9-month-old boy presented with history of high grade fever for five days, hypotension, soft hepatomegaly and malena. Investigations revealed a hematocrit of 53.4% and platelet count of 58,000 per cubic mm. DHF was confirmed serologically by dengue specific IgM and IgG antibodies by ELISA test. The child recovered in 10 days; however, thrombocytopenia persisted (platelet count: 12,000/mm³). A bone marrow aspirate, performed on 26th day of illness, suggested adequate megakaryocytes.

Case 2

A 9-year-old girl presented with history of high grade fever for four days, myalgia, hypotension, epistaxis and petechiae. Investigations revealed a platelet count of 40,000 per cubic mm, and a hematocrit of 48.6%. DHF was confirmed serologically by ELISA for IgG and IgM antibodies. She had persistent thrombocytopenia of 13,000 per

cubic mm of blood at 30 days. A bone marrow aspirate revealed adequate megakaryocytes.

Persistent thrombocytopenia in both cases responded to intravenous methylprednisolone. Thrombocytopenia is known to occur in DHF, which promptly recovers by 9-10 days of illness(2). The pathogenesis of persistent thrombocytopenia in these two cases is not clearly understood. Following are possible mechanisms that have been postulated for thrombocytopenia in DHF;

- (a) Dengue virus induces bone marrow suppression(2);
- (b) Dengue virus can bind to human platelets in presence of virus specific antibody and immune mediated clearance of platelets(3);
- (c) Spontaneous aggregation of platelets to vascular endothelial cell pre-infected by virus inducing aggregation, lysis and platelet destruction(4).
- (d) Anti-platelet antibodies generated after dengue virus infection causes destruction of platelets(5).

In the two patients that we are reporting, the presence of adequate megakaryocytes, confirmed by bone marrow aspirate, with co-existent thrombocytopenia at a time when the virus was normally expected to have been cleared and prompt response to methyl prednisolone suggests immune mediated

platelet destruction. Persistent thrombocytopenia can cause intracranial or vulnerable deeper site bleeds and intravenous methylprednisolone rapidly increase platelet count to safer levels to reduce mortality and morbidity.

**N. Dinesh,
V.D. Patil,**

*Department of Pediatrics,
Jawaharlal Nehru Medical College,
Belgaum 590 010,
Karnataka,
India.*

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Immunization Coverage among Migrant Tribal Children in Slums of Orissa

The vaccination of children against six serious but preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles) has been a cornerstone of the child healthcare system in India. Only 42% of children in India and 44% in Orissa had received all the recommended vaccinations(1). This letter, based on a cross-sectional study, reports the immunization coverage among the children (aged below 2 years) of migrant tribals living in small groups in slums of Bhubaneswar city, Orissa. Through a pilot survey in slums of Bhubaneswar city, four Santal dominated slums were selected. Data were collected from 71 mothers belonging to Santal tribe through a structured questionnaire. The awareness of mothers about various essential vaccines was remarkable (90%). Majority of the mothers (69%) depend on health workers, followed by government hospitals (16%) and private

practitioners (4%) for vaccinating their children. Only 56% children possessed vaccination cards. *Table I* reports the coverage of various vaccines among the eligible children. It was noted that one-fourth of children did not receive a single vaccine. None of the children in this community were fully vaccinated (3 doses of DPT and 4 doses of OPV, BCG and measles). Only 59% of children had received BCG vaccine at birth. The first dose of DTP was received only by 62% and the coverage of OPV at birth, vaccination for measles and vitamin A were also very low.

The obstacles to optimal health care are greatest for children born into poverty; those are also likely to be exposed to infectious diseases and unclean water, and are at the great risk of malnutrition(2). Measles, polio, hepatitis B and some other diseases can only be controlled through immunization. Government health personnel seem to be the source of information on immunization(3). Delivery of healthcare services plays a significant role in improving the coverage of