MANAGEMENT OF DENGUE HAEMORRHAGIC FEVER

by

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The occurrence of dengue haemorrhagic fever in Jakarta was first recorded in 1968 and published by Kho et al in 1969. Since then, until the end of 1983, 1 119 cases of serologically confirmed dengue fever or viral isolation were admitted in our department. During all these years, adjustment in the management of this disease did improve the outcome.

Four periods of readjustment in the management of DHF could be distinguished:

(1) 1969-1972

Standard treatment was given to 229 children with IVFT consisting of dextrose 5 per cent in half strength saline solution with additional blood plasma expanders, if considered necessary, especially in cases of haemorrhage and circulatory disturbances with shock, the quantities of fluid given being 100-200 ml/kg BW/day. A large quantity was given in the first four hours. Additional corticosteroids were given in cases of severe shock while antibodies were given if secondary infections were suspected. The mortality was 33.2 per cent (see Table 1).

(2) 1973-1976

In this period DIC was recognized as a major complication of DHF. Therefore, heparin was added in the treatment of DIC with a dose of 1/2 - 1mg/kg BW/4 hours intravenously for 24-48 hours only (Kho, et al, 1976). A total of 327 children were given standard treatment together with heparin in case of DIC. The mortality in this group decreased considerably to 10.8 per cent (Table 1).

(3) 1977-1978

During this period, prevention of the development of DIC was stressed with the administration of acetosal (ASA) 10 mg/kg BW/day and dipyridamol (DMP) 5 mg/kg BW/day. Fifty-four cases were given standard treatment and additional ASA and DMP and heparin in case of DIC. The mortality was known to be approximately the same - 9.3 per cent (Table 1).

TABLE 1. **Comparison of different methods of management in DHF**
(Percentages in parentheses)

Year	Total cases	Treatment	Cases			
			Type I	Type II	Type III-IV	Mortality
1969-1972	229	Standard	28 (12.2)	94 (41.0)	107 (46.8)	76 (33.2)
1973-1976	327	Standard + Heparin	44 (13.5)	180 (55.0)	103 (31.5)	36 (10.8)
1977-1978	54	Standard + Heparin + DPM + ASA	18 (33.3)	15 (27.8)	21 (38.9)	5 (9.3)

NOTE: Standard = Standard treatment with fluid, electrolytes, plasma expanders, plasma, blood, antibiotics and corticosteroids if necessary
Heparin = 1/2 - 1 mg/kg BW every 4-6 hours intravenously for 24-48 hours
DPM = Dipyridamole 5 mg/kg BW/day
ASA = Acid. Acet. Salic. 10 mg/kg BW/day

(4) 1979-1983

As we gained more experience in the treatment of DHF, unnecessary manipulations and invasive procedures were limited to a minimum. For example, routine haemograms and haemostasis, which were previously repeated every 4-6 hours, were not done once daily, except in those cases where the condition worsened. Frequent monitoring of the blood pressure and other manipulations that might damage the capillary walls were restricted. Too many manipulations including a tourniquet test, might result in unnecessary damage of the capillary walls, with consequent leakage of tissue fluids, aggregation of platelets and initiation of clotting with the development of DIC and shock. This happened especially in those cases which were treated in the intensive care unit.

The results of this kind of management were: 1979 (47 cases, no mortality), 1980 (101 cases, mortality 4.0 per cent), 1981 (119 cases, no mortality), 1982 (55 cases, mortality 1.8 per cent), 1983 (186 cases, mortality 0.5 per cent) - see Table 2.

Our conclusion was that the management of DHF in our hospital with standard treatment and additional heparin treatment in DIC cases with prevention of the formation of DIC by giving DPM and ASA orally and the prevention of many physical manipulations improved the mortality rate considerably and significantly.

TABLE 2. **Standard treatment of DHF with Heparin + DPM + ASA and minimal manipulations**[a]
(Percentages in parentheses)

Year	Total cases	Cases				
		Type I	Type II	Type III	Type IV	Mortality
1979	47	14 (29.8)	18 (38.3)	10 (21.3)	5 (10.6)	0 (0)
1980	101	46 (47.5)	27 (26.7)	13 (10.9)	15 (14.9)	5 (4.0)
1981	119	58 (48.7)	42 (35.3)	13 (10.9)	6 (5.0)	0 (0)
1982	56	25 (44.6)	19 (33.9)	8 (14.3)	4 (7.1)	1 (1.8)
1983	186	78 (41.9)	55 (29.6)	30 (16.1)	23 (12.4)	1 (0.54)

[a]Minimal physical manipulations and invasive procedures

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