BACKGROUND: In Indonesia, DHF was first reported in 1968 and the numbers of reported cases since then have increased sharply. In spite of the increasing incidence of DHF, a distinct decline in the case fatality rate over the last 30 years suggests that clinicians have succeeded in reducing hospital mortality by effective and adequate management; however, the mortality rate of DSS remains high. The risk factors include prolonged and recurrent shock.

OBJECTIVE: Improve the management of prolonged and recurrent shock using hyperoncotic albumin solution to restore the plasma oncotic pressure and induce the flow back of fluid and electrolytes into the intravascular compartment.

METHOD: The subjects were DSS patients suffering from prolonged and recurrent shock, admitted during the period of January 1998-December 2002. Serologic (HI) test for dengue was carried out by Namru-2, Jakarta detachment. The management of DSS include the administration of Dextrose 5%-half strength saline solution 10 ml/kg BW and 6% Hexaethyl starch 40 (in Ringer Lactate) 10 ml/kg BW for 1 hour for volume expansion. If shock persists, the dose can be repeated for another 1 hour. If shock still persists, protein/albumin plasma and haematocrit value should be reviewed. The administration of albumin 20%-25% is considered if the albumin level is &leq; 2.5 g/dl or protein &leq; 5.0 g/dl in concurrent with high and or rising hematocrit. The dose given were calculated by = [(3.5 (g) – Actual albumin level (g))/100] x {50 x BW (kg)} x 2 gram as drip in 4 hours. Furosemid 1 mg/kg BW, i.v. was administered to prevent hypervolemia.

RESULTS: Of 77 prolonged or recurrent DSS cases admitted, 50 were treated with hyperoncotic albumin solution (study group) and 27 cases were not treated with hyperoncotic albumin solution (control group). The mean plasma albumin level is 2.08 g/dl (SD 0.47), protein 3.96 g/dl (SD 0.48) and hemoconcentration 45.8% (SD 13.4%). No significant difference in sex distribution, age and nutritional status between the 2 groups. The benefit of hyperoncotic albumin administration is shown by the fact that among the study group there are 4 (8.0 %) mortality compared to 9 (33.3 %) mortality in the control group. This 25.3 % difference (absolute risk reduction) is statistically significant (p=0.007; RR 4.16, 95% confidence interval 1.41 – 12.27), and the number needed to treat to save one patients (NNT) is 3.95 (95% confidence interval of 2.2 – 16.7).

CONCLUSION: Administration of hyperoncotic albumin solution for DSS cases with prolonged shock
offers the most effective intravascular volume expansion and a promising measure in reducing the mortality of DSS. This data demonstrates that there is a coherent rationale for albumin replacement therapy in hypoalbuminemic DSS patients.