

## Clinical Recommendations Based Upon the Internal Dengue Seminar 2023

### 1) Recommendation: Cautious use of paracetamol in admitted adult patients of Dengue Fever/Dengue Hemorrhagic Fever

Reference: Lecture by Dr. Terapong Tantawichien

#### Effect of standard dose paracetamol versus placebo as antipyretic therapy on liver injury in adult dengue infection: a multicentre randomised controlled trial

Lancet Glob Health 2019;

7: e664-70

Vasin Vasikasin, Thanawith Rojduromgrattana, Worayon Chuerboonchai, Thanawhan Siriwiwattana, V. ....  
Suchada Niyasom, Nawarat Lertleiwtrakool, Sitawee Jitsiri, Dhitiwat Changpradub

Multicenter randomized, double trial, placebo control:  
125 hospitalized adult patient (mean age 27 ± 10 yrs) with laboratory-confirmed dengue  
If body temp. > 38 °c – received paracetamol 500 mg or placebo 500 mg every 4 hrs  
Primary outcome- AST and ALT more than 3 times

#### Results

Median daily dosage of paracetamol 1.5g ( IQR= 0.8-2g)

- Significant higher rate of transaminitis (increased AST,ALT) in paracetamol group compared with placebo (22% vs 10%; incidence rate ratio 3.77, p= 0.011).
- The change of AST/ALT in the paracetamol group > placebo group (mean difference AST= 12.43 U/L per day, p<0.0001  
ALT=; 7.40 U/L per day, p=0.0001)

No significant change of body temp. and pain score

2) **Recommendation:** In patients with acute severe hepatitis with an at least 10 times elevation of transaminase levels should raise concern. If liver failure develops with a **PT > 15 seconds** or **INR >1.5** and/or a deteriorating mental status, Oral N acetylcysteine (NAC) should be given in the following doses:

- Adults and pediatrics
  - 140 mg /kg loading dose
  - After 4 hours of loading dose, 70 mg per kg every 4 hours for additional 17 doses
  - Solution should be diluted to 5% and mixed with soft drink or juice to enhance palatability
  - Any vomited dose should be re administered

Reference: Lecture by Dr. Terapong Tantawichien , Liver Complications in Adult Dengue and Current Management, Sombat Treeprasertsuk and Chatporn Kittittrakul

<https://www.tm.mahidol.ac.th/seameo/2015-46-1-suppl/c4-03p99-107.pdf>

Albert Marchetti and Richard Rossiter, Journal of Medical Economics, volume 12, 2009-Issue 4

**Recent suggestions for the treatment of dengue patients with acute liver failure**  
**N-acetylcysteine (NAC)**  
**Providing temporary liver support – Artificial liver support**  
 Treeprasertsuk S; Southeast Asian J Trop Med Public Health 2015

Acute hepatic failure  
in Hemoglobin H dis and DHF

**Use of intravenous N-acetylcysteine in acute severe hepatitis due to severe dengue infection: a case series**

Dissanayake et al. BMC Infect Dis (2021) 21:978

Leowattana W *et al.* Dengue hemorrhagic fever and the liver

Table 2 The incidence and mortality rate of acute liver failure in Dengue hemorrhagic fever patients with liver involvement				
Investigators	Countries	Study population	Incidence rate (%)	Mortality rate (%)
Teerasantipan <i>et al</i> [46]	Thailand	2311 adults	0.71	58.82
Devarbhavi <i>et al</i> [34]	Qatar	10108 adults	0.35	58.30
Laoprasopwattana <i>et al</i> [45]	Thailand	3630 children	1.10	68.30
Trung <i>et al</i> [25]	Vietnam	644 adults	0.77	20.00
Kye Mon <i>et al</i> [44]	Thailand	1926 age ≥ 15 yr	0.31	66.70

World J Hepatol 2021 December 27; 13(12): 1968-1976

3) Recommendation: In patients with a creatinine clearance of < 30 mL/min

**Cockcroft-Gault Formula for Estimating Creatinine Clearance**

$$\text{CrCl (mL/min)} = \frac{(140 - \text{age}) \times \text{Lean Body Weight (kg)}}{\text{Serum Creatinine (mg/dL)} \times 72} \quad (\times 0.85 \text{ if female})$$

**OR receiving Renal Replacement Therapy use 20% Albumin instead of Dextran 40. Give 100 ml of 20% Albumin SIMULTANEOUSLY with 400 ml of 0.9% of Normal Saline over 1 hour  
3 boluses of 20% Albumin with 400 ml of 0.9% Normal saline may be used in 24 hours instead of Dextran 40**

Reference: Lecture by Dr. Terapong Tantawichien and  
[https://www.slhd.nsw.gov.au/RPA/neonatal%5Ccontent/pdf/Medications\\_Neomed/Albumin\\_20\\_ANMFv1.0\\_Full\\_20190722.pdf](https://www.slhd.nsw.gov.au/RPA/neonatal%5Ccontent/pdf/Medications_Neomed/Albumin_20_ANMFv1.0_Full_20190722.pdf)

4) Recommendation: Inclusion of the following criteria in “O” and “R” forms for admission of dengue patients:

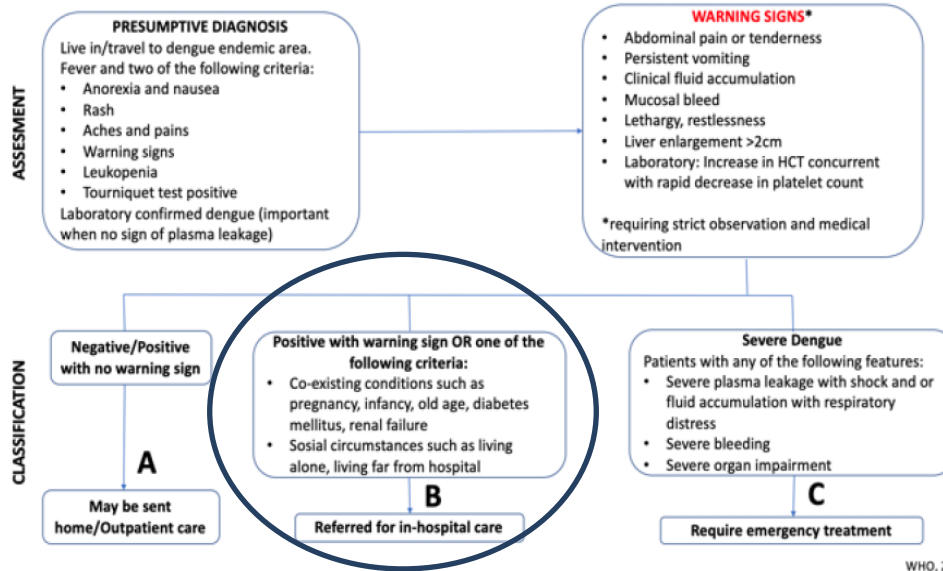
- a) Co-existing conditions such as pregnancy, infancy, old age, uncontrolled diabetes mellitus, renal failure, **decompensated liver disease and other comorbid conditions etc.**
- b) Social circumstances such as living alone, living far from hospital

Reference: Lecture by Dr. Ida Safitri Laksono, Department of Child Health, Public Health and Nursing Universitas Gadjah Mada, Indonesia

# Clinical algorithm



UNIVERSITAS GADJAH MADA



WHO, 2009

## 5) Recommendation: Incorporate “CCTVR” the all dengue patients at initial assessment

Reference: Lecture by Dr. Ida Safitri Laksono, Department of Child Health, Public Health and Nursing Universitas Gadjah Mada, Indonesia

## Pearls in Clinical Examination for Dengue Patient

The "5-in-1 maneuver" magic touch – CCTV-R

Hold the patient's hand to evaluate the peripheral perfusion

Save patient's life in 30 seconds by early shock recognition

