

# Dengue Hemorrhagic Fever with Massive Gastrointestinal Bleeding

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**Keywords:** Expanded dengue syndrome, fluid overload, gastrointestinal bleeding

**Abstract:** Dengue infection is an acute febrile disease that caused by flavivirus, known for its four serotypes. Each of serotypes may cause varies clinical presentation. The case fatality rate of severe dengue or dengue shock syndrome could reach 44%, however, with early detection it could reduce to less than 1 %. We reported a case of severe dengue and expanded dengue syndrome in a 7 year old girl. Patient was referred from other hospital and had received aggressive fluid. Patient came with breathlessness, bilateral pleural effusion, ascites and massive gastrointestinal bleeding. From urinalysis we also found high leucocyte and bacteria. The patient received whole blood transfusion, vitamin K injection, ceftriaxone and other supportive treatment. She was hospitalized for 5 days and discharge with improvement.

## 1 INTRODUCTION

Dengue infection has a wide clinical range from asymptomatic disease, classical dengue fever (DF), dengue hemorrhagic fever (DHF), dengue shock syndrome (DSS), and expanded dengue syndrome (EDS) (WHO). In 2013, worldwide dengue infection was estimated occurred in 390 million people, among them 90 million were symptomatic (Bhatt, 2013). Without proper treatment, case fatality rate could reach up to 20% and with early detection and intervention would reduce to <1% (WHO, 2013). Increasing number of dengue cases with atypical presentations are being reported as increasing awareness of the disease (Gulati, 2007).

Herewith we report a case of severe dengue infection with expanded dengue syndrome in a 7 year old girl.

## 2 CASE PRESENTATION

AR, a 7 years old girl, was referred to Adam Malik Hospital on April 2nd 2019 with chief complaint of shortness of breath that occurred 1 day prior admission to hospital. History of fever was experienced for 4 days, typical high fever that was

difficult to treat with antipyretic. There was no fever found within these 2 days. Headache and athralgia was found during fever. There was no nausea or vomiting found. Abdominal distension and pain was found. We also found swelling of eyelids, face, and extremities. Ptechia was found on the extremities. Patient was hospitalized in another hospital for 3 days and received aggressive fluid therapy of 4 liter ringer lactate and 1 liter HES.

On physical examination, her current weight was 21 kg, while previous body weight was 17 kg. The patient was still alert but looked ill. Her temperature on admission was 37.5°C. Blood pressure was 100/60 mmHg, heart rate of 105 bpm, and respiratory rate of 32 bpm. There was palpebral and extremities edema. On the chest examination, she had symmetrical chest expansion. The respiratory rate was 32 bpm, regular. From auscultation we found breath sound was decreased on both of lung. Abdomen was distended and ascites found. The bowel sound was normal. We inserted naso gastric tube and blood was found ±500ml during follow up (figure 1).

From laboratory result on admission, hemoglobin level was 13g/dl, hematocrit 38%, leukocyte 5210/uL, platelet 16.000/uL, lymphocyte was 40.3%, and blood glucose was 96gr/dL. Anti-dengue IgM and

IgG turned out to be positive. During follow up, hemoglobin level drop to 7.9gr/dL. We also checked for liver function and found increase AST (102) but normal renal function. Blood culture result turned out sterile. We found slightly low sodium level and increase doubled of APTT level (Table 1). From urine examination we found leucocyte level 172 and bacteria was 127.

From chest x-ray, we found bilateral pleural effusion (figure 2). We did abdominal examination in this patient and found ascites (figure 3).

We diagnosed the patient severe dengue infection and expanded dengue syndrome.

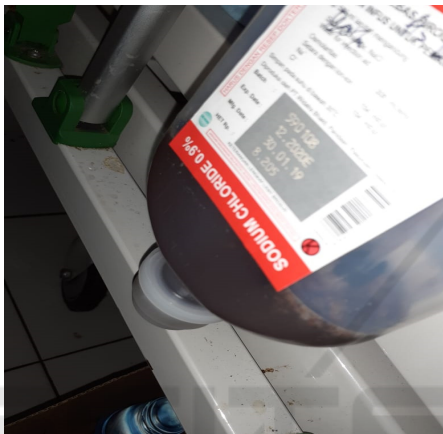


Figure 1: Gastrointestinal bleeding



Figure 3: Abdominal ultrasound revealed ascites.

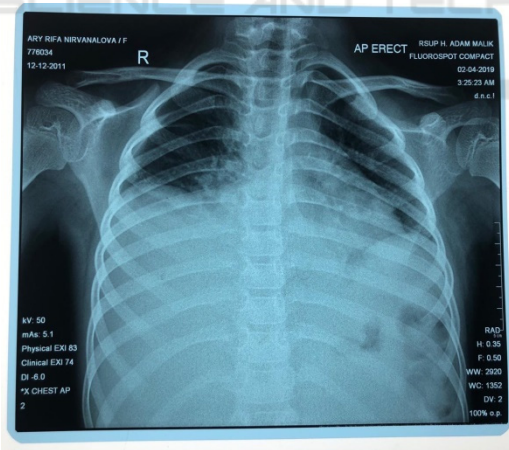


Figure 2: Chest X-ray showed bilateral pleural effusion.

Expanded syndrome that we found in this patient was fluid overload and co-infection with urinary tract infection. We treated the patient with supportive treatment such as oxigenation and maintained her airway, breathing, and circulation. We gave ceftriaxone, ranitidine, and furosemide to remove excessive fluid. We give 200cc whole blood

to replace the blood loss. We treated the patient for 5 days and she was discharged with improved condition.

### 3 DISCUSSION

Dengue infection is a major public health problem concern mostly affected tropical and subtropical regions (Mandall, 2011). Majority of dengue infection was dengue fever, but about 13.4% could lead to severe dengue infection (Mishra, 2016). Almost all patients that came with dengue infection had fever or history of fever and headache (Laul, 2016 ). In our case we found similar result, the patient complained 4 days of fever and headache. One study found that the prevalence of severe dengue increase in age > 11 year old (Mishra, 2016), however in our case report the age of the patient was younger. Previous study showed that in severe dengue infection more than 78% of the patient developed abnormal breath sound and plural effusion, and more than 82% while other study found lower number than that (Laul, 2016; Pone, 2016). We found bilateral effusion in our case that also showed from chest x-ray. One study also showed that gastrointestinal bleeding was common

in dengue infection (Bhaskar, 2015). In our case, the patient has massive gastrointestinal bleeding. A study showed ascites could be found in 34% dengue infection patients with gastrointestinal bleeding (Huang, 2018). This was similar to our finding, our severe dengue patient developed ascites and proved by ultrasound result. In another study showed increase level of AST more than 200 in severe dengue while other only 80 (Pone, 2016; Bhaskar, 2015). In our case, the AST level increase slightly above 100.

More than 78% children with spontaneous bleeding had decrease platelet count and 75% bleeding manifestation occurred in patients with platelet  $<20,000/\text{mm}^3$  as reported in a study (Chairulfatah, 2003). This was confirmed in our case, where the platelet level was  $16,000/\text{mm}^3$  on admission and patient had gastrointestinal bleeding. Platelet transfusion could be given in dengue infection with active bleeding and platelet count  $<50,000/\text{mm}^3$  (Photapregadha, 2015). In our case, we gave transfusion with whole blood because hemoglobin level also decreased due to active bleeding. The mechanism of bleeding manifestation in dengue infection is multifactorial, including coagulation defects (Photapregadha, 2015). This was proved in our case which APTT level also disturbed. Among all dengue infection, about 4.3% cases will develop to expanded dengue syndrome with different manifestations (Laul, 2016). Our report found fluid overload and urinary tract infection as co-infection as manifestation of expanded dengue syndrome.

## 4 CONCLUSION

We have treated a 7 year old girl who came with history of fever for 4 days, bilateral pleural effusion, ascites, massive gastrointestinal bleeding, severe thrombocytopenia, and co-infection with urinary tract infection. She was diagnosed with severe dengue infection with expanded dengue syndrome. The patient was hospitalized for 5 days and was discharged with great improvement.

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