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EXPANDED DENGUE SYNDROME: A CASE REPORT

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ABSTRACT

Dengue fever is an arthropod-borne viral disease (Flavivirus) and is primarily transmitted by Aedes aegypti mosquito found throughout the tropical and subtropical region of over 100 countries. The World Health Organization Estimates that the number of infection across the globe to be 50 million per year.[1] Dengue fever has mostly an uncomplicated cause of illness; but few develop complication and unusual manifestation. We present a case of Expanded dengue syndrome (EDS) highlighting with less frequently seen but nevertheless important complication. Patient was successfully managed and was discharged in stable condition. To the best our knowledge, this is a case of simultaneous occurrence of multiple complication in dengue patient and being presented to make clinical practitioners aware of spectrum of dengue infection.

KEYWORDS: Expanded dengue syndrome, pleural effusion, pericardial effusion, subconjuctival hemorrhage

INTRODUCTION

Dengue is one of the most important arthropod borne viral disease. More than 50 million people residing in tropical areas are infected with dengue fever every year and its incidence has increased 30 times in the last 50 year.[1] Expanded dengue syndrome is a new entity added to the classification system to incorporate a wide spectrum of unusual manifestation of dengue infection affecting various organ system that had been reported including gastrointestinal, hepatic, neurological, cardiac, pulmonary, and renal system.[2] Dengue virus is an RNA virus from the genus Flavivirus transmitted via the bite of female Aedes aegypti

mosquitoes. The clinical presentation ranges from asymptomatic infection to severe bleeding, hemodynamic instability and even death.[1] EDS is a terminology developed by WHO – Unusual manifestation of patients with severe organ involvement such as liver, kidney, brain or heart associated with dengue infection which can be associated with co infection, co-morbidities or complications of prolonged shock and can be clubbed under expanded dengue syndrome.[3]

CASE REPORT

A 26 year old previously healthy man who was presented with high grade fever associated with chills persisting for 7 days. Patient developed 2 episodes of hemoptysis, breathlessness and dark stools on the day of admission with a history of red colored eyes since two days and generalized abdominal discomfort, myalgia arthralgia for 3 days. On examination patients was conscious, oriented, febrile (100 F). Pulse rate (82/min), BP (130/100mm/Hg), RR (35/min) SPO2- 86%, CBG -81. Systemically he had reduced basal bowel sounds. He had subconjuctival hemorrhage of both eyes. Other investigation: Chest x-ray showed B/L pleural effusion and B/L lung field haziness, ECHO revealed mild LVH and trace pericardial effusion, Blood investigation revealed mild neutrophilia with thrombocytopenia and normal BT, CT, PT, INR. Dengue serology was positive for IgM and IgG, negative for NS1AG, viral markers were non-reactive, culture sensitivity for blood and urine was negative. Gram stain for ET secretion showed few pus cells. Ultrasound abdomen revealed hepatosplenomegaly, B/L pleural effusion and minimal ascites. Patients had worsening hypoxemia and tachypnea and he was kept on ventilator with supportive care. Outside Laboratory investigation reveals that platelet count was (41000), (39000) and following investigations was carried out.

Table 1: Illustrates platelet counts during hospital stay.

Days	Platelet Values
Day 1	80000
Day 2	76000
Day 3	106000
Day 4	143000
Day 5	193000

Borderline abnormalities with liver function test (SGOT, ALP, and GGTP) and also showed elevated LDH level. ABG showed hypokalemia (2.6mg/dl). All other parameters was found to be normal.

Treatment was done with antibiotic, PPI and supportive treatments and physiotherapy. 4 units of FFP were transfused. The platelet count was remarkably improving (193000) tolerated weaning, extubated and got discharged on medical advice.

DISCUSSION

Expanded dengue syndrome was coined by WHO in the year 2012 to describe cases which do not fall into either dengue shock syndrome or dengue hemorrhagic fever. The typical manifestations noted in expanded dengue are multisystemic and multifaceted with organ involvement such as liver, brain, heart, kidney and CNS.[4] Certain high risk group such as pregnant, infant, geriatric group, patient with coronary artery disease, hemoglobinopathies and immunocompramised individual are particularly susceptible to develop.[1] Serology test in dengue are influenced by the type of dengue infection whether it is primary or secondary or reinfection. IgM antibodies are detectable by 3-5days after the onset of illness, rise quickly in 2weeks and decline to undetectable level after 2-3months. The first 5days of clinical illness are usually negative for IgM. IgG antibodies with low titers 8-10days after fever onset, increase subsequently and remain for many years whereas in case of secondary infection it evolve rapidly with high titers and persist to a lifelong period. NS1Ag detection is widely used and cost-effective, could be detected by 1-8days of fever onset unaffected by primary or secondary dengue infection. Dengue serological testing being positive for IgG and IgM indicates a previously existing primary or secondary infection with unusual manifestation and organ complication for which a new entity being added by WHO 2009- Expanded dengue syndrome(EDS).[2]

This case appears with less frequently seen but nevertheless important complication that can occur with dengue infection. Multiple organ involvement can occur. In our case, ocular involvement with complication of B/L subconjuctival hemorrhage was noted. Ophthalmic complication of dengue has recently been recognized and reported more often. Studies have found 60% dengue patients have ocular complication with subconjuctival hemorrhage being most common.[1] ABG showed hypokalemia which was similarly observed in few literatures suggesting that the cause of hypokalemia may be due to redistribution of potassium in cells and was reported up to 28% of serologically proven cases of dengue infection.[5] Chest X-ray reveals pleural effusion suggesting evidence of ARDS which was in concordance with a cohort study of 129 patients showed that approximately 80% of ARDS patients present with

fluid around the lung (pleural effusion) in addition to fluid in the air sac and within the lung parenchyma.[6]

Bleeding complication is more common in dengue fever which is also observed in this case and it was corrected by giving fresh frozen plasma.

As per European society of cardiology 2013; ECG, ECHO, CET are the main criteria for making diagnosis of myocarditis in dengue infection, our study showed a normal ECG, whereas ECHO revealed left ventricular hypertrophy and traces of pericardial effusion which is similar to case reported by M V Arifijanto et al.[2]

Expanded dengue syndrome with organ dysfunction may require adequate management and supportive measures without delay.

CONCLUSION

Dengue fever is an emerging momentous public health issue throughout the globe. High degree of clinical suspicion is the key for early diagnosis and treatment. True incidence of multiple organ involvement and the pattern of presentation can be understood by formulating a clear protocol and spreading increased awareness among the community can prevent and fight against disease.

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