Clinical Case Reports: Open Access

Yumed Text
OPEN ACCESS JOURNALS

Letter to Editor | Vol 7 Iss 2
ISSN: 2582-5038
https://dx.doi.org/10.46527/2582-5038.300

Dengue Fever Unmasking Sickle Cell Anemia in an Adult Female

Shivali Sehgal[1*], Shaan Khetrapal[2], Pushpa Bisht[2] and Sujata Jetley[2]

[1]Department of Pathology, Lady Hardinge Medical College, New Delhi

[2]Department of Pathology, Hamdard Institute of Medical Sciences and Research, New Delhi

[*]**Corresponding author:** Shivali Sehgal, MBBS, MD, DNB, Assistant Professor, Department of Pathology, Lady Hardinge Medical College, New Delhi, Tel: 011 2336 3728; E-mail: shivalisehgal@gmail.com

Received: April 24, 2024; **Accepted:** May 08, 2024; **Published:** May 16, 2024

Sir,

An adult female presented to the medicine department with fever with chills, generalized myalgia and retro-orbital pain. There was high suspicion of dengue fever so dengue serology along with other routine blood investigations were sent. Serology for NS 1 antigen was positive confirming dengue fever. Complete blood count revealed reduced hemoglobin (9.7g/dl), leucocytosis (20,000/cumm) and thrombocytopenia (69,000/cumm). On peripheral smear, red blood cells showed moderate anisocytosis with presence of normocytic normochromic cells, microcytic hypochromic cells, elongated cells, few macrocytes and occasional polychromatophils. A leucoerythroblastic blood picture was present with presence of 73 nRBCs per 100 WBCs. Few activated lymphocytes were seen. Platelets were reduced on smear. The possibility of hemolysis could not be excluded. On liver function tests, there was presence of indirect hyperbilirubinemia (Total bilirubin=1.65mg/dl, indirect bilirubin=1.14mg/dl) and mildly raised alkaline phosphatase (168 IU/L). In view of the above findings, HPLC was performed on D-10 analyzer. Chromatogram revealed HbA=57%, HbA2=4.9%, HbF=1.5% and S window=27.9%. The findings were suggestive of HbS heterozygous state and family studies were advised.

The diagnosis of Sickle cell disease in this patient was suspected in view of the presence of elongated cells (sickle cells) and the underlying hemolytic picture. Dengue fever unmasked the heterozygous HbS state by exacerbating the hemolysis in this previously asymptomatic patient. Past literature reporting patients with combination of sickle cell disease and dengue fever are limited [1].

Bravo et al reported 158 fatal cases of dengue during the DENV-2 epidemic in Cuba, out of which 8 patients were found to be suffering from sickle cell anemia. Five of these patients were presented with hemorrhages and three were in shock [2]. Ware

et al reported one fatal case of dengue hemorrhagic fever in a sickle cell anemia patient [3]. Two cases of fatal dengue in patients with sickle cell disease were also described in Curacao [1].

In a retrospective study in USA, the evolution of sickle cell disease was studied in patients who had dengue fever and was found that HbSC patients were more likely to develop multiorgan failure or acute pulmonary complications. These patients also had a higher proportion of severe form of dengue and higher incidence of death than those with SS genotype [4]. deOliveira et al reported two cases with dengue fever who were presented with sickle cell intrahepatic cholestasis [5].

Therefore, it has been found that severe and severe and acute complications dengue are more likely in patients with sickle cell disease [5]. As such Sickle cell anemia patients may develop different complications because of their underlying disease per se. Clinicians should be well aware of the challenges in clinical management of such cases, especially in populations which have high prevalence of sickle cell anemia or disease and dengue fever.

REFERENCES

1. Moesker FM, Muskiet FD, Koeijers JJ, Fraaij PLA, Gerstenbluth I, Van Gorp ECM et al. Fatal dengue in patients with sickle cell disease or sickle cell anemia in Curacao: Two case reports. PloS Negl Trop Dis. 2013;7(8):e2203.
2. Bravo JR, Guzman MG, Kouri GP. Why dengue hemorrhagic fever in Cuba? Individual risk factors for dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS). Trans R Soc Trop Med Hyg. 1987;81(5):816-20.
3. Ware MA, Hambleton I, Ochaya I, et al. Day care management of sickle cell painful crisis in Jamaica: a model applicable elsewhere? Br J Hematol. 1999;104(1):93-6.
4. Elenga N, Celicourt D, Muanza B, et al. Dengue in hospitalized children with sickle cell disease: A retrospective cohort study in the French departments of America. J Infect Public Health. 2020;13(2):186-92.
5. deOliveira LR, Costa ALC, Almeida PV, et al. Dengue fever as a potential cause of sickle cell intrahepatic cholestasis: A report of two cases. Rev Soc Bras Med Trop. 2021;54:e0010-2021.