A Case Report: Dengue Fever with Right Quadriceps Hematoma

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ABSTRACT

Muscle hematomas are rare complications in dengue fever. We report a case of a 40-year-old male patient admitted with dengue fever, complicated by a spontaneous right quadriceps hematoma. The patient with NS1-positive presented with a low platelet count, 20,000/µL. During his hospital stay, the patient developed swelling and pain in the right thigh, and a right quadriceps muscle hematoma was confirmed by ultrasonography (USG). His hemoglobin level was 7.6 g/dL and his hematocrit was 22.1%. He received one pint of packed red blood cells (PRBC) along with supportive care. Monitoring of laboratory parameters, including the size of the hematoma was done until it resolved spontaneously. Despite its rarity, we must recognize and manage this dengue fever complication appropriately. Such complications have not been well documented in the literature.

Keywords: Dengue Fever, Muscle Hematoma, Quadriceps Hematoma

INTRODUCTION

Dengue is a mosquito-transmitted virus principally caused by the Aedes mosquito and the dengue virus (DENV), which belongs to the family Flaviviridae[1]. Mostly, dengue infections are asymptomatic or produce only mild illness, but occasionally they can cause more severe cases and even death[2,3]. Hemorrhagic manifestations range from bleeding from the gums and nose to hematomas to life-threatening hemorrhages[3]. However, it is quite rare to develop muscle hematomas in dengue fever[4]. We report a case of quadriceps muscle hematoma as a complication of dengue fever.

CASE PRESENTATION

A 40-year-old male patient presented to the emergency department with a history of fever for 5 days, which was acute in onset, intermittent in nature, with a maximum temperature reaching 103°F, and associated with malaise without arthralgia, retro-orbital pain, and vomiting for 1 day, with a frequency of 2-3 episodes. There was no history of headache, blurring of vision, sore throat, rashes, epistaxis, neck stiffness, loss of consciousness, abnormal body movement, chest pain, cough, palpitations, abdominal pain, diarrhea, or loose stools. There were no associated comorbidities like hypertension, diabetes mellitus, and thyroid disorders. The patient is a nonsmoker and does not consume alcohol.

On clinical examination, the patient was alert, conscious, cooperative, and well-oriented to time, place, and person. The vitals and systemic examination were also unremarkable. He was initially managed with antiemetics and IV fluids. The patient's vitals were stable.

His blood count showed platelets at 20,000/mm^3, leucocytes at 1880/mm^3, and hemoglobin at 14.9gm/dL. Dengue NS1 antigen was positive. Serology for malaria and scrub typhus was negative. The patient was admitted to the medical ward for further management and observation. Initially, the patient was managed with antipyretics and antiemetics as required. On the next day of admission, the patient complained of pain over the right thigh that was initially managed conservatively. On consecutive days, the platelet count kept improving until it reached the normal value. (Table 1)

On Day 6, a sudden fall in hemoglobin (7.6 Gm/dL) and hematocrit (22.1%) levels was noted. He did not have hematemesis, melena, hemoptysis, or epistaxis. Prothrombin time (PT) and international normalized ratio (INR) were normal, and urine routine examination was unremarkable. (Tables 1 and 2). The patient had increased pain and swelling over the right thigh, which on evaluation with USG showed well-defined echogenic collection in the muscular plane in the anterior aspect of the right thigh of around 64 cc. The patient also developed maculopapular rashes over the left forearm and arm on its volar and radial aspects, which also resolved spontaneously.

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Table 1: Daily biochemical investigations

Parameters	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Hemoglobin (gm/dL)	14.9	15.3	N/A	N/A	N/A	7.6	8.5
Hematocrit (%)	45.5	45.4	N/A	N/A	N/A	22.1	25.5
WBC Count (/mm^3)	1,880	5,050	N/A	N/A	N/A	6,240	N/A
Platelets (/mm^3)	20,000	33,000	40,000	36,000	70,000	128,000	196,000
SGPT/ALT (U/L)	106	N/A	108	N/A	N/A	N/A	N/A
SGOT/AST (U/L)	150	N/A	193	N/A	N/A	N/A	N/A

Table 2: PT/INR of Day 6 of Admission

Prothrombin Time (PT)	Time (seconds)
Prothrombin Time (Test)	13.1
Activated Partial Thromboplastin Time	28.6
Prothrombin Time (Control)	13.0
International Normalized Ratio (INR)	1.01

He received one pint of PRBC, and his Hb was 8.5 g/dL with a hematocrit of 25.5%.

On review of USG scans, the hematoma was decreased to 54 cc on the next day. The pain and swelling over the right thigh were also resolving spontaneously. After 7 days of hospital stay, the patient was discharged in a hemodynamically stable state and advised to follow up in medicine OPD after a week. Hemoglobin and hematocrit levels, along with liver enzymes, were improving, and there was further resolution of the hematoma on USG screening up to 9 cc.

DISCUSSION

The manifestation of severe dengue with bleeding complications is mainly due to a combination of thrombocytopenia, increased vascular fragility, increased fibrinolysis, and altered pro-coagulation and anticoagulation factors. Muscle hematoma is a rare clinical entity caused by dengue fever. Very few cases of spontaneous muscle hematomas have been reported in severe dengue fever, especially in psoas muscle, rectus muscle, and iliopsoas muscle hematomas[5,6,7]. Similarly, a case of severe dengue fever complicated with psoas hematoma was reported, where the patient suddenly developed pain in the left groin and inguinal region on day 6 of admission with a platelet count of 12000/mm^3, and the next day, USG showed a left psoas hematoma and was managed with red cell transfusion[8]. Also, a case of subdural hematoma following severe dengue was reported where the patient had collapsed with GCS 3/15 with bilateral dilated fixed pupils on day 5 of admission and required evacuation of hematoma and platelet transfusion both pre- and post-operatively, and thrombocytopenia resolved within 48 hours with gradual resolution of hematoma[9]. However, in our case, on day 6 of admission, the patient developed a right quadriceps muscle hematoma. The management for it was conservative, and over time, the hematoma was decreasing with the increase in the platelet counts, and the anemia was resolved with one pint of packed red cells transfusion.

CONCLUSION

This case highlights the rare but significant complication of spontaneous muscle hematoma in dengue fever. Our patient presented with a right quadriceps hematoma, which was managed conservatively with supportive care, including blood transfusion and close monitoring of laboratory parameters. The hematoma resolved spontaneously with the normalization of platelet counts and hemoglobin levels. Clinicians should be aware of this unusual complication to ensure timely diagnosis and appropriate management. This case contributes to the growing body of evidence on the varied presentations of dengue fever and underscores the need for vigilance in identifying bleeding complications.

AUTHOR CONTRIBUTIONS

Consent and Design - BJ, Literature Review - All, Data Collection and Analysis - All, Draft - All, Revision - All; Final Manuscript and Accountability - All authors have read and agreed to the final version of the manuscript.

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INFORMED CONSENT STATEMENT

The informed consent was obtained from the patient for the publication of this case report.

DATA AVAILABILITY STATEMENT

The data and supplementary material that support the findings of this study are available from the corresponding author upon reasonable request.

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CONFLICT OF STATEMENT

The authors declare no conflict of interest.

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