

## Case Report

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# Spontaneous muscle hematoma complicating dengue hemorrhagic fever: a case report

Haque HF<sup>a</sup>, Ahmed AKMS<sup>b</sup>, Bashar FB<sup>c</sup>, Anjum R<sup>c</sup>

### Abstract

*Dengue is endemic in Bangladesh and is an emerging infection in many parts of the world. Its clinical manifestations are wide spectrum, may present as mild fever to shock. Muscle hematomas are rare complications in dengue hemorrhagic fever. We report a case of 21-year-old male with dengue hemorrhagic fever who developed right sided iliacus muscle hematoma. He presented with fever, progressive thrombocytopenia and evidence of plasma leakage. During the recovery phase, he developed severe pain in right hip during movement. Diagnosis was confirmed by pelvic computed-tomography scan and he was managed conservatively.*

**Key words:** Dengue hemorrhagic fever, muscle hematoma.

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### Introduction

Dengue fever is caused by a dengue virus of family *Flaviviridae*. The presentation of dengue hemorrhagic fever (DHF) is diverse, ranging from petechial hemorrhages to life threatening visceral hemorrhages. But muscle hematoma is very rare.<sup>1</sup> The bleeding tendency in dengue fever is due to hyper-immune response of the host to the dengue virus causing endothelial dysfunction, increased vascular permeability and thrombocytopenia with or without platelet dysfunction.<sup>2</sup> Haematological changes are minimally correlated with clinical bleeding.<sup>3</sup> Here, we report a case of muscle hematoma complicating DHF.

### Case report

A 21-year-old male presented with an acute onset of high grade, continued fever and bodyache for 3 days. This was accompanied by nausea and vomiting. He had

no known history of blood disorders and was not on any anticoagulant therapy. On physical examination, his temperature was 102°F. There was no other significant abnormality. His initial laboratory reports showed bicytopenia (total white cells 3800/cmm, platelet 28,000/cmm), raised hematocrit level and positive dengue non-structural protein (NS1) antigen. His platelet count progressively decreased until fifth day, reaching the lowest level of 18,000/cmm but his prothrombin time (13 s) and activated partial thromboplastin time (APTT) (36 s) were normal. His transaminases were raised and ultrasonogram of whole abdomen revealed mild ascites as well as bilateral mild pleural effusion.

On fifth day after admission, he complained of severe pain in right hip during movements. Local examination of hip joint and gluteal region was unremarkable except for flexion deformity of that joint with painful movements of right lower limb. An immediate ultrasound of right hip (Figure 1) revealed swollen right sided iliacus muscle with hypoechoic area, possibilities were hematoma or abscess. A computed tomography (CT) scan of pelvis showed right sided iliacus muscle hematoma (Figure 2). The patient was managed with paracetamol, intravenous fluids, two units of apheretic platelet concentrate, analgesics and antiemetics. He was discharged in a stable condition and advised to undergo another ultrasonogram after seven days to see the size of the hematoma whether it was resolved or not.

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### Author Information

- Dr. Hasna Fahmima Haque, Assistant Professor, Department of Internal Medicine, BIRDEM General Hospital and Ibrahim Medical College, Dhaka, Bangladesh.
- Professor AKM Shaheen Ahmed, Professor, Department of Internal Medicine, BIRDEM General Hospital and Ibrahim Medical College, Dhaka, Bangladesh.
- Dr. Fuad Bin Bashar, Dr. Rizwana Anjum, Resident Medical Officer, Department of Internal Medicine, BIRDEM General Hospital, Dhaka, Bangladesh.

**Address of correspondence:** Dr. Hasna Fahmima Haque, Assistant Professor, Department of Internal Medicine, BIRDEM General Hospital and Ibrahim Medical College, Dhaka, Bangladesh. Email: drfahmimahaque@gmail.com

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**Figure 1** Ultrasonogram showing iliopsoas haematoma



**Figure 2** Computed tomography scan showing right sided iliopsoas haematoma

### Discussion

Among the mosquito-borne viral diseases, dengue is one of the most rapidly spreading infections of global concern. Causes behind the critical stage of DHF are higher degree of plasma leakage as well as low platelet count which lead to circulatory failure and bleeding complications.<sup>4</sup> Along with thrombocytopenia, increased fibrinolysis, altered procoagulation and anticoagulation factors balance is also responsible for those bleeding complications in DHF.<sup>5-7</sup>

Among bleeding complications, muscles hematomas are rare and the common sites of intramuscular hematomas are rectus sheath, psoas and iliopsoas muscles.<sup>8,9</sup> Nelwana EJ et al, Matthias et al, Koshy JM and Kumar A et al, reported different cases of DHF with muscle hematomas in the rectus, psoas, iliopsoas and iliopsoas muscle respectively.<sup>1,8-10</sup> Hematomas are mostly unilateral and

rarely bilateral. Sasson Z reported a case of bilateral muscle hematomas.<sup>11</sup> Ultrasound imaging and contrast enhanced CT scan are the diagnostic tools for muscle hematomas. Most of the patients were managed with adequate fluid resuscitation, platelet transfusion, packed cell transfusion, analgesics and resolution occurred with time.<sup>11,12</sup> Our patient was managed accordingly.

Clinicians should remain cautious about the critical phase of dengue fever for spontaneous bleeding in the muscle and other major organs or body cavities as prompt diagnosis and management would help in satisfactory recovery.

**Conflict of interest:** Nothing to declare.

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