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Case Report

Spontaneous retroperitoneal hematoma – An unusual presentation in a child with dengue fever

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ABSTRACT

Background: Dengue fever is a syndrome caused by several arthropod-borne viruses, characterized by fever, myalgia or arthralgia, rash & thrombocytopenia. Various bleeding manifestations of dengue have been documented including petechiae, mucosal bleeding, pulmonary, GI, and cerebral hemorrhage. Abdominal hematoma presenting as acute abdominal pain is a rare complication of dengue fever and is frequently overlooked. There is a paucity of data in the current literature on such cases.

Clinical Description: A 13-year-old male was admitted with a complaint of fever for 3 days and myalgia. The patient had hepatosplenomegaly and managed as dengue with warning signs with positive NS1 antigen and dengue IgM antibody Platelet count was 42×103/mm3. No history of any bleeding disorder, trauma, or exposure to anticoagulant drugs. On day 6 of admission, the patient developed acute pain in the right lumbar and inguinal region, along with a reduced ability to move the right leg. Hip joint movements on the right side were painful with no restriction. Management & Outcome: His coagulation profile was normal with a hemoglobin value of 10.5 g/dl and platelet count of 40×103/mm3. CECT abdomen- suggestive of retroperitoneal collection of fluid adjacent to right psoas muscle – consistent with retroperitoneal bleed.He was monitored, managed conservatively & showed gradual improvement. Platelet counts improved. Discharged at platelet count of 273×103/mm3 & when symptom-free.On follow-up after a month, he was asymptomatic.

Conclusion: The possibility of a retroperitoneal hematoma should be considered in a case of unexplained lower abdominal pain & hip arthralgia with dengue fever. A high index of clinical suspicion and awareness can detect such cases with needful management.

1. Introduction (unlabelled)

Dengue fever is a syndrome caused by several arthropod-borne viruses, characterized by fever, myalgia or arthralgia, rash & thrombocytopenia. A revised case definition from WHO classifies dengue into three categories: dengue without/with warning signs and severe dengue.[1]

Various bleeding manifestations of dengue have been documented including petechiae, mucosal bleed, pulmonary, GI and cerebral haemorrhage.

Abdominal haematoma presenting as acute abdominal pain is a rare complication of dengue fever and is frequently overlooked, leading to a diagnostic delay. There is a paucity of data in the current literature of such cases.

Recently managed a child presenting as dengue with warning signs, later on developing spontaneous retroperitoneal hematoma.

2. Clinical Description

A 13-year male was admitted with fever since 3 days and myalgia with no history of any bleeding manifestations. He

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had no history of epistaxis, gum bleeding, easy bruising, and prolonged bleeding from wounds. No h/o bleeding disorder, trauma or exposure to recent anticoagulant drugs. No family history of bleeding disorders.

General physical examination revealed tachycardia (Pulse rate – 104/min), tachypnoea (Respiratory rate – 26/min), raised temperature (101 F) along with flushing of skin. Blood pressure was 116/72 mmHg which was between 50^{th} to 90^{th} centile. No petechiae or purpura seen.

Systemic examination was suggestive of decreased air entry on bilateral basal lung fields and hepatosplenomegaly.

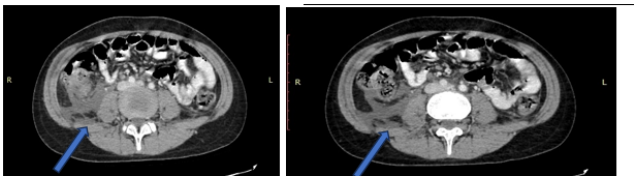

Figure 1: CECT Abdomen showing retroperitoneal haematoma as pointed. (Blue arrows)

3. Management and Outcome

Investigations showed Haemoglobin of 10.5 g/dl, TLC 7860 cells/mm^3, DLC N86L05 with platelet count being 42×10^3/mm^3. Blood investigations for malaria (Rapid malarial antigen) and typhoid (Typhi Dot IgG and IgM) were negative. NS1 antigen and dengue IgM antibody were positive. Peripheral smear was suggestive of thrombocytopenia with other cell lines normal, ruling out possibility of malignancy. Coagulation parameters were normal.

3.1. He was managed as a case of dengue with warning signs as per guidelines

On day 6 of admission, patient developed acute pain in right lumbar and inguinal region. General condition of the child was fair, with no fever in the past 24 hours. On examination, there was no palpable lump. Hip joint movements on right side were painful but not restricted. There were no petechiae, purpura or mucosal bleeding.[2]

His coagulation profile was normal with haemoglobin value of 10.5 g/dl and platelet count of 40×10^3/mm^3.

USG findings were non-contributory, hence CECT abdomen was planned to rule out any mass or surgical cause causing the pain.

CECT abdomen (Figure 1) was suggestive of retroperitoneal collection of fluid adjacent to right psoas muscle – consistent with retroperitoneal bleed. There was also presence of mild splenomegaly, bilateral pleural effusion with underlying basal lung passive atelectasis, pericholecystic fluid, mild ascites, mesenteric and retroperitoneal lymphadenopathy with extensive mesenteric fat stranding.

He was closely monitored, managed conservatively & showed gradual improvement. Platelet counts showed a rising trend with fall in haematocrit. One week later at the time of discharge, he was symptom free. Platelet count was 273×10^3/mm^3 On follow-up after a month, he was asymptomatic.

4. Discussion

Retroperitoneal hematomas can be due to traumatic or non-traumatic causes.

Traumatic may be due to blunt or penetrating trauma. Non-traumatic iatrogenic retroperitoneal hematomas are the result of percutaneous interventions (PCI) or endovascular procedures.

Causes of spontaneous retroperitoneal hematoma include rupture of parenchymal lesions such as angiomyolipoma, cysts, and renal carcinomas or underlying vascular malformations such as aneurysm or pseudo aneurysm of any retroperitoneal vessels. It is also common in patients receiving anticoagulation therapy, and those with underlying coagulopathy.

In our patient, there was no history of trauma, any interventions, parenchymal or vascular lesions. There was also no history of underlying coagulopathy or anticoagulation therapy.

Atypical manifestations of dengue such as encephalitis, hepatitis, renal failure and cholecystitis have been reported in several reports.[3,4] However, spontaneous retroperitoneal bleeding reports in dengue fever have been few and far in between.[5–8]

Chan et al. reported adult dengue deaths in Singapore in which one patient out of the four reported deaths had suffered massive intractable retroperitoneal haemorrhage and shock.[5]

Ameer et al. reported a case of psoas hematoma complicating dengue fever in which the patient recovered with IV fluids, blood and FFP transfusions and conservative management.[6] A similar case was reported by Singh et al. in which the patient recovered with platelet transfusions and supportive care.[7]

Herng Teh et al. reported a case in which a 53-year-old lady was admitted with decompensated dengue shock, complicated by massive retroperitoneal bleeding requiring angioembolization. CT abdomen revealed a large right retroperitoneal hematoma with ongoing bleeding. Bleeding resolved after angioembolization of the right L2 lumbar artery and right phrenic artery.[8]

The pathogenesis of bleeding in dengue fever is due to exaggerated immune response of the host to the dengue virus, usually in secondary infection. This hyper immune response of the host causes endothelial dysfunction, increased vascular permeability and thrombocytopenia.

Treatment options include intravenous fluids and platelet transfusions and timely surgical intervention in case of complications like compartment syndrome or increasing hematoma size due to active bleeding. In our case, there was no active bleeding indicated by the absence of contrast extravasation on CT scan, hence was managed conservatively.

5. Conclusion

Possibility of retroperitoneal hematoma should be considered in a case of unexplained lower abdominal pain & hip arthralgia with dengue fever. As it may become life-threatening at times, a high index of clinical suspicion should be kept. Awareness of this clinical entity can detect such cases with needful management.

5.1. Lessons learnt

1. Spontaneous retroperitoneal hematoma should be suspected in a case of dengue fever with unexplained lower abdominal pain and hip arthralgia.
2. USG may not always be the modality of choice to diagnose such an entity.
3. This condition could even become life-threatening at times hence must be managed promptly.

6. Source of Funding

None.

7. Conflict of Interest

None.

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