

Perplexing Etiology of Grey Turner Sign - Perinephric Hematoma in Dengue

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ABSTRACT

Dengue classically manifests as an acute febrile illness with associated prodrome comprising of prostration, arthralgia, myalgia, headache and retro-orbital pain. A small proportion of patients may present with bleeding manifestations (rash, gum bleed, epistaxis and melena) while an even subtle subset may have dreaded capillary leak; recognized as severe Dengue. Isolated perinephric bleed presenting as abdominal wall ecchymoses has never been reported. In this context, index case exemplifies a relatively uncommon clinical manifestation (Grey Turner sign consequent to perinephric hematoma) of a rather prevalent tropical infection (Dengue).

Keywords: Perinephric hematoma, Dengue, Grey Turner sign

INTRODUCTION

Atypical bleeding sites reported in Dengue include pulmonary hemorrhage, gingival or intracranial bleed [1] and rarely retroperitoneal hematoma; however isolated spontaneous perinephric hematoma has never been described. We report a middle-aged male, who presented with acute febrile illness with left flank pain, and had abdominal wall ecchymoses extending from left hypochondrium to iliac region - Grey Turner's sign on clinical examination. Evaluation revealed left perinephric haematoma and pancytopenia consequent to Dengue infection.

CASE SUMMARY

A forty-nine years male, with non-contributory past history, presented with complaints of fever for eight days (high grade, intermittent, associated with chills) and left flank pain for three days (acute in onset, non-radiating with continuous dragging sensation). Patient also had history

of arthralgia and myalgia. He denied history of oliguria, dysuria, hematuria, pyuria or gravelluria. Clinically, he was hemodynamically stable. Systemic examination was remarkable for Grey Turner's sign extending from left hypochondrium to iliac region (Figure 1a).

Investigations revealed pancytopenia (hemoglobin - 9.3 g/dL, leukocyte count of 2900/mm³, platelet count of 53000/mm³ with normocytic normochromic picture on peripheral smear). He had normal biochemical (including hepatic and renal function tests) and coagulation profile [International Normalized Ratio (INR) of 1.1 and Prothrombin Time Index (PTI) of 96%]. Further workup revealed Dengue fever [positive non-structural antigen 1 (NS1Ag) as well as IgM] with no evidence of co-infection with other known tropical pathogens. Ultrasonography of abdomen to look for the etiology of Grey Turner's sign bewildered us with left perinephric hematoma, confirmed further on contrast

imaging which revealed well-defined, hyperdense collection in left perinephric space; measuring 14.2 X 8.4 X 6.7 cm, extending along the anterior aspect of the left psoas muscle (Figure 1b) with normal

pancreas and no evidence of benign or malignant lesions or vascular abnormalities of kidney. Serology was negative for HIV, HBsAg and anti-HCV. ANA was negative by ELISA.



Figure 1a - Bluish discoloration of skin (Grey Turner's sign) extending from left hypochondrium to iliac region.

Figure 1b - CECT of abdomen showing well-defined, hyperdense collection in the left perinephric space; measuring 14.2 X 8.4 X 6.7 cm, extending along the anterior aspect of the left psoas muscle (red arrow) with normal pancreas.

The patient was managed conservatively and symptoms improved spontaneously following supportive measures. Pancytopenia had normalized by one month and the hematoma had also regressed significantly at three months follow-up.

DISCUSSION

Dengue causing isolated spontaneous perinephric hematoma producing Grey Turner sign has never been described and hence reported for its novelty.

Pathogenesis of bleeding in dengue is presumed to be due to exaggerated immune response of the host to the virus (generally a secondary infection, after priming by a primary infection), resulting in endothelial dysfunction, increased vascular permeability and thrombocytopenia with or without platelet dysfunction.^[2] While retroperitoneal hematoma^[3] has been reported with severe dengue, isolated

perinephric hematoma has never been described.

Common causes of perinephric hematoma include trauma to lower back, rupture of renal aneurysm complicating fibromuscular dysplasia of renal artery,^[4] renal malignancy, injury following renal biopsy, polyarteritis nodosa, rupture of renal cysts or renal abscess, use of drugs like anticoagulants and antithrombotic agents. Index patient denied history of trauma, procedures (renal biopsy, pigtail drainage), use of implicated drugs and had no evidence of a renal mass, cyst, aneurysm, abscess, pyelonephritis.

The eponymous sign, initially described in the setting of acute pancreatitis by Grey Turner^[5] in 1919, nevertheless has also been reported with retroperitoneal hemorrhage,^[6] blunt abdominal trauma, ruptured ectopic pregnancy and disseminated intravascular coagulopathy. Index case denied any history of blunt trauma abdomen and had no clinical or

radiological evidence of acute pancreatitis or severe sepsis.

In absence of any other suitable explanation for perinephric hematoma, retrospective improvement with conservative measures alone and applying principle of Occam's razor, we attribute isolated spontaneous perinephric hematoma to dengue fever. Evident cutaneous hemorrhage possibly is explained by tracking of blood (methemalbumin) from retroperitoneal regions, along the fascial planes, to the musculature and thereon to the flank tissues. [7]

Learning Points

Isolated spontaneous perinephric hematoma secondary to severe dengue, albeit uncommon, nevertheless can present as 'Grey Turner' sign, which is otherwise contemplated to be sine-qua-non with acute severe pancreatitis.

Index case exemplifies a relatively uncommon clinical manifestation (Grey Turner sign consequent to perinephric hematoma) of a rather prevalent tropical infection (Dengue).

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