

## Case Report

# A rare case of iliopsoas hematoma in a patient with von Willebrand disease

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### ABSTRACT

Iliopsoas hematoma is a serious complication that can occur in bleeding disorders, most commonly hemophilia but it can also be seen in von Willebrand disease (vWD) in less frequency. This can cause muscle pain, muscle dysfunction and sometimes even femoral nerve palsy. Iliopsoas hematomas can be diagnosed by the usage of ultrasonography, computed tomography (CT) or magnetic resonance imaging (MRI). Here we report a case of a 20-year-old boy who presented to us with complaints of pain in the right lower quadrant, flank, and inguinal region for a week. He was diagnosed with vWD type 3 when he was 10 years old. The symptoms started after he had tried to kick start his motorbike vigorously. Clinical examination revealed the patient to be in an anti-pain posture and to have tenderness at sites where he complained of pain. A subsequent CT scan showed that there was an iliopsoas hematoma of size 10×6 cm. The patient was managed conservatively with factor replacement and physiotherapy following which there was amelioration in the symptoms and the patient recovered well.

**Keywords:** Iliopsoas hematoma, von Willebrand disease, CT scan

### INTRODUCTION

Von Willebrand disease (vWD) is one of the two most common inherited bleeding disorder; the other being Hemophilia A.<sup>1,2</sup> It is due to quantitative or qualitative defects involving the Von Willebrand factor.<sup>1</sup> vWD can be further classified in 3 major types, with 4 further subtypes under type 2. Type 1 is by far the most common type, whereas type 3 is the most severe among the three types.<sup>2</sup> Though patients might have vWD, not all patients are symptomatic. The possibility of patients experiencing bleeding manifestations depends upon the overall hemostatic balance, environmental influences and the various hemostatic challenges faced by them. The symptoms may vary from simple gum bleeding to life-threatening hemorrhages. As in hemophilia A, musculoskeletal hemorrhages can occur in vWD type 3.<sup>3,4</sup>

Iliopsoas hemorrhage is a significant complication as a delay in treatment can lead to permanent palsy of the femoral nerve.

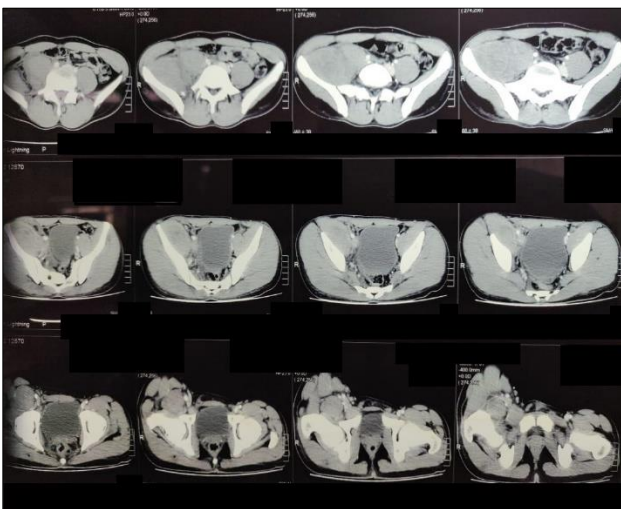
### CASE REPORT

A 20-year-old male presented to us with complaints of pain in the right lower quadrant, loin and inguinal region for one week. He was diagnosed with vWD type 3 ten years ago. He gave a history of vigorously kick-starting his motorbike following which the symptoms had started. He also complained of loss of sensation over the lateral aspect of the right thigh. He previously had episodes of gum bleeding for which he had taken treatment but the treatment records were not available. He did not have any bleeding episodes for 2 years. On physical examination, he was afebrile and vital signs were within normal limits

and he did not have any pallor or icterus. He had tenderness in the right lower quadrant, right loin and right inguinal region. He had adopted an anti-pain posture with his right hip and right knee flexed. Attempts at both passive and active extension caused an increase in pain. He had weakness of the right quadriceps muscle. X-ray abdomen which was done was normal. Ultrasound revealed the possibility of an iliopsoas hematoma. Subsequently CT of the abdomen and pelvis confirmed a right iliopsoas hematoma of size 10×6 cm. Blood investigations revealed: hemoglobin- 12.6 mg/dl; total counts-  $7.4 \times 10^3$ ; prothrombin time (PT)- 18.6; internationalized normalised ratio (INR)- 1.42. The patient was managed conservatively, and factor VIII replacement was done and physiotherapy was also started. He improved with these and started walking without support in 3 days of the treatment. Follow up at 1.5 months revealed the patient to have recovered with significant improvement in the sensorimotor deficit.



**Figure 1: Patient in anti-pain posture with marked area of hypoesthesia.**



**Figure 2: CT image showing iliopsoas hematoma.**

## DISCUSSION

From the laboratory data, the prevalence of vWD is estimated to be around 1% but data from the symptomatic individuals suggest them to be around 0.1%.<sup>2</sup> VWD can be of three major subtypes: type 1- partial quantitative vWF deficiency; type 2- qualitative vWD deficiency; type 3 - total vWD deficiency. Our patient was already diagnosed with type 3 vWD. These type 3 vWD patients can present with mucosal and joint bleeding, surgery-related bleeding, and other bleeding manifestations. Some of these patients, particularly those patients with large vWD gene deletions, are at increased risk of developing antibodies to the infused vWD. Hence caution must be exercised in these patients.<sup>2</sup> Iliopsoas hemorrhage can be encountered in coagulation disorders like hemophilia and vWD; and also in patients who are anticoagulation therapy like warfarin, heparin, and ticlopidine.<sup>3,4</sup> The first-ever case was reported by Tallroth in 1939.<sup>5</sup> However, unlike in hemophilia, muscle hematoma is not common in vWD.<sup>6,7</sup> The onset of the hematoma can usually be traced to a traumatic origin or an onset following a vigorous exercise.<sup>3,8</sup> However there is a case report by Keikhaei et al which suggests that these hematomas can occur spontaneously too.<sup>4</sup> Patients usually present with complaints of pain in the flank or lower lateral abdomen quadrants which radiates to the ipsilateral hip joint. These patients adapt an anti-pain posture with flexion of hip joint and knee joint and when there is an attempted extension of these joints, there is resistance and pain experienced by the patients. There may be an associated weakness and sensory deficit along with the distribution of the femoral nerve due to compression by the hematoma. USG, CT and MRI can be useful in the diagnosis of a retroperitoneal hematoma. The treatment of this condition is controversial as there is no common consensus and this necessitates reporting of more such cases. The management may vary between a decompression (open surgical or percutaneous route) and a medical approach.<sup>4</sup> Those who advocate the former suggest that a decompression might help in minimizing the neurological deficit. Non-operative management involves factor replacement and complete rest. Our patient recovered with a non-operative management.

## CONCLUSION

Iliopsoas hematoma is a rare but serious complication seen in bleeding disorders as a delay in intervention can lead to significant nerve compression and permanent neuropathy.

Diagnosis can be achieved by radiological investigations like USG, CT or MRI. The treatment may vary between a non-operative management with factor replacement and complete rest; and a decompression (surgical or percutaneous approach).

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