

## Limb Loss Following Deep Venous Thrombosis Associated with Huge Uterine Fibroid: Case Presentation and Review of Literature

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**Key words:** Complication, environment, amputation, hypertensive, avoidable morbidities

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Page No.: 44-46

Volume: 15, Issue 3, 2020

ISSN: 1816-3319

International Journal of Tropical Medicine

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**Abstract:** Uterine fibroids are common amongst nulliparous women in our environment. Vascular occlusion resulting in deep venous thrombosis as a complication is however, rare. A review of the medical record of a 40 years old nullipara, known hypertensive diabetic who presented with left lower limb gangrene due to left iliac vein thrombosis secondary to extrinsic compression by a uterine fibroid was carried out. She had a total abdominal hysterectomy and an above knee amputation of the left lower limb. Considering the high prevalence of uterine fibroids in our environment, it is pertinent for physicians to have a high index of suspicion when a woman presents with hip or left calf pain and a pelvic mass. This will ensure early intervention and prevent avoidable morbidities.

## INTRODUCTION

Uterine fibroid is common especially amongst nulliparous black women. Menstrual and pressure symptoms are largely the presentation of uterine myomas. The effect of pressure is on structures related to the uterus such as the intestines, urinary system and vessels with the tendency to compress pelvic structures resulting in obstructive uropathy, vascular and lymphatic occlusion. Uterine fibroids had been identified as a rare cause of venous thromboembolism<sup>[1, 2]</sup>. The mechanism of injury according to the Virchow triad is stasis of blood flow, disruption of the vascular endothelium and hypercoagulability of blood and these can be found in obese patients, pregnancy, prolonged immobility, pelvic surgeries, uterine masses, hypertension, diabetes, malignant diseases to mention among others<sup>[3, 4]</sup>. The anatomical placement of the right iliac artery crossing the left iliac vein increases the propensity for deep vein

thrombosis occurring on the left and risk is further increased by the presence of a huge abdominal mass obstructing venous flow<sup>[5]</sup>.

Apart from vascular occlusions as a result of pressure over the pelvic vasculature, reports of pulmonary embolism, with the pelvis as the primary source of emboli had been documented<sup>[6, 7]</sup>. We report a case of a 40 year old diabetic and hypertensive with left femoral venous thrombosis secondary to extrinsic compression by huge uterine fibroid. A high index of clinical suspicion, a multidisciplinary collaboration and early intervention is the hallmark of effective management. This is the first documented case in the environment.

## MATERIALS AND METHODS

**Case report:** Miss T.O, a 40 years old pharmacist Para 0<sup>+0</sup> presented to a private clinic with sudden onset of pain on her left hip of 4 days duration. The pain was sharp,

excruciating and started after she lifted a heavy carton. It progressively increased in severity involving the entire left lower limb. There was progressive loss of sensation on the entire left lower limb with inability to stand or walk unsupported. Few days later she noticed that the left lower limb became swollen, discolored and cold to touch. There was no history of a fall or trauma to the left hip. There was also no history of neck pain, fever, intermittent claudication, chest pain, headaches, transient ischaemic attack or air travel. She has not been on any oral contraceptive agents. The contra lateral limb and the upper limbs were not affected.

She was diagnosed diabetic 7 years ago and had been on oral hypoglycaemic agents. About 8 months ago she was also diagnosed of hypertension and has been on oral amlodipine. She has no previous hospital admissions or surgeries. She was compliant with her medications and her blood pressure and glycaemic control were satisfactory prior to presentation.

Her last menstrual period was on 28th September 2014. Her menarche was at 10 years and she menstruated for 4 days in a regular 28-days cycle. She had had no menstrual abnormalities. She is yet to achieve coitarche. She had a pelvic mass that had remained same since it was noticed and hence attracted little or no attention until now. She was single and neither took alcohol or used tobacco in any form.

At onset of symptoms, she presented to the referring private hospital where she was given analgesics and a pelvic ultrasound scan revealed multiple uterine fibroids with left sided hydronephrosis. A vascular doppler scan of the left lower limb revealed occlusion of the left femoral vein. Following these findings, she was referred to teaching hospital as a case of deep venous thrombosis for further management four days after presentation.

On presentation at the UPTH, the patient was conscious, pale and was obese with a BMI of  $36 \text{ m}^{-2}$ . The left lower limb was edematous and had no power. There was loss of vibration and joint position sense. The sensory sensation was at T9 level. The left lower limb was cold and clammy with popliteal tenderness. The dorsalis pedis and popliteal pulsations were absent.

There was an abdominopelvic mass of 26 weeks size, relatively fixed with limited movement from side to side. Her chest was clinically clear. Her pulse rate was regular at 92 beats per minute and her blood pressure was 180/90 mm Hg. Heart sounds 1 and 2 only were heard.

She was reviewed by the medical team and a preliminary diagnosis of monoparesis secondary to disc prolapse with hemi-cord compression to rule out deep vein thrombosis in a known diabetic was made. Her random blood sugar test was  $14 \text{ m mol L}^{-1}$  TK with a packed cell volume of 23%. Electrolyte, urea and

creatinine were within normal limits; a repeat Doppler ultrasound scan had similar report as earlier observed.

She was commenced on soluble insulin, subcutaneous enoxaparin 40 mg 12 hourly, warfarin tablets 5 mg daily, analgesics and two units of packed cells were transfused. Despite the above treatment for 72 h, the condition of the patient did not improve for which reason a thrombolectomy of the femoral vessels was carried out. Findings at surgery noted a uniformly collapsed left femoral artery with extrinsic compression and embolus in the left femoral vein. The influence of the abdomino-pelvic mass as the probable cause of her problem was thus entertained hence warranting the invitation of the gynecological team on call.

A review by the gynecological team showed an acutely ill patient mildly pale, febrile (temperature of  $37.7^\circ\text{C}$ ). The skin of the left lower limb was noted to be darkened from the foot to the mid leg, the big and second toe were dry and collapsed with bulbous formation on the dorsum of the foot.

An impression of left gangrenous foot secondary to thromboembolism as a result of extrinsic compression of the left iliac vessel by a huge uterine myoma was made. She had a total abdominal hysterectomy under general anaesthesia four days after presentation). Intra-operative findings were huge multiple uterine fibroids of about 26 weeks size resting on a prominent sacral promontory. The right iliac vessels were dilated relative to the left iliac vessels with minimal pulsations noted on the left iliac vessels. The ovaries were grossly normal.

She also had an above- the knee amputation of the left lower limb. She was discharged to the orthopaedic team after ten days of admission to continue her care on an outpatient basis.

## **RESULTS AND DISCUSSION**

An enlarging uterine mass impedes blood flow in the pelvic venous system and thus predisposes to thrombus formation with mechanical obstruction causing hydronephrosis, hydronephrosis with oedema formation and in some cases constipation<sup>[4,8]</sup>. In our environment, women with uterine fibroids commonly presents with pelvic pain, heavy menstrual bleed and seldom obstructive uropathy and constipation. Deep Venous Thrombosis (DVT) will present with sudden onset of calf pain or hip pain. The index case presented with hip pain after lifting a heavy load. Attention did not immediately go towards fibroid as a cause of the DVT until ultrasound scan, Doppler studies and failure of the revascularization after thrombolectomy suggested possible extrinsic compression. The incidence of DVT was found to be commoner on the left and the sizes of the fibroids are

usually between 12-26 weeks. Fernandes *et al.*<sup>[1]</sup>, Hawes *et al.*<sup>[3]</sup> and Devabhaktuni *et al.*<sup>[4]</sup>. A computed Tomography scan could also have assisted in resolving the diagnostic dilemma that may be encountered which would show the venous thrombosis and compression of the vessels but was not done.

The patient had conventional management of DVT, which was immediate anti-coagulation with unfractionated low-molecular weight heparin followed by a proposed 3-6 months of oral warfarin. Wright *et al.* Others may require anti-coagulation therapy and a two-stage operation of a hysterectomy and a thrombolectomy<sup>[1, 4]</sup>. This patient had oral warfarin and subcutaneous enoxaparin and later a thrombolectomy before an emergency total abdominal hysterectomy after the thrombolectomy did not cause an improvement in vascular blood flow.

The general outcome for this patient was poor because of delay in deciphering the primary cause of the thrombotic phenomenon which was masked by the cofactors of diabetes, obesity and hypertension which are also notable risk factors for deep vein thrombosis.

Apart from the doppler ultrasound report of occlusion, findings during the thrombolectomy, the findings of compensatory dilatation of the right iliac vessels and the evident left hydronephrosis gives further credence to the physiological adaptation of the body to an already existing obstruction. The prominent sacral promontory, been an existing base for the myoma to rest on the pelvic vasculature causing compression is worthy of note as another risk in the patient under discuss. The structural aberrations would give credence to the fact that the other cofactors, diabetics and obesity, were not primarily responsible for the condition under discussion.

### CONCLUSION

We hereby want to use this case to increase the awareness of the association between uterine fibroids and deep vein thrombosis. Review of literature had shown such among the Asian and American populations, African and indeed Nigerian women are not an exception. There is therefore, need for high index of clinical suspicion among gynaecologists, vascular surgeons and cardiologists when a woman presents with hip and/or left

calf pain with a pelvic mass or heavy menstrual bleed even in the presence of other risk factors to deep vein thrombosis.

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